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FINAL

ENVIRONMENTAL STATEMENT

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ATCHAFALAYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

ASSOCIATED WATER FEATURES

GULF INTRACOASTAL WATERWAY
LAKE PALOURDE
BAYOU PENCHANT
ATCHAFALAYA BAY
FOUR LEAGUE BAY
GULF OF MEXICO

Prepared by

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS, NEW ORLEANS, LOUISIANA

March 1973

FINAL ENVIRONMENTAL STATEMENT
ATCHAFALAYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

TABLE OF CONTENTS

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
	SUMMARY	i
1	PROJECT DESCRIPTION	1
2	ENVIRONMENTAL SETTING WITHOUT THE PROJECT	2
	a. Geological elements	2
	b. Hydrological elements	3
	c. Archeological elements	9
	d. Botanical elements	10
	e. Zoological elements	11
	f. Economic and social conditions	12
	g. Other related projects	15
3	THE ENVIRONMENTAL IMPACT OF THE PROPOSED PLAN	18
4	ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED	24
5	ALTERNATIVES TO THE PROPOSED ACTION	26
6	THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	30
7	ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED	31
8	COORDINATION WITH OTHERS	32
	a. Public participation	32
	b. Government agencies	33
	(1) U. S. Department of the Interior, Office of the Secretary	33
	(2) U. S. Department of Commerce, the Assistant Secretary of Commerce	36

TABLE OF CONTENTS (Cont'd)

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
(3)	U. S. Department of Transportation, Coast Guard	36
(4)	U. S. Department of Health, Education, and Welfare	36
(5)	Environmental Protection Agency, Regional Administrator	37
(6)	Louisiana Department of Public Works	39
(7)	Louisiana Parks and Recreation Commission	39
(8)	Louisiana State Board of Health	39
(9)	Louisiana Wild Life and Fisheries Commission	39
(10)	Louisiana Stream Control Commission	41
(11)	Louisiana Department of Highways	41
(12)	Louisiana Commission on Intergovernmental Relations	41
(13)	Curator of Archaeology, Department of Geography and Anthropology, Louisiana State University	41
(14)	Louisiana Planning Office	41
(15)	Louisiana Advisory Commission on Coastal and Marine Resources	41
(16)	Louisiana Department of Conservation	42
(17)	Louisiana State Land Office	42
(18)	National Wildlife Federation	42
(19)	Louisiana Wildlife Federation	46
(20)	Louisiana Historical Preservation and Cultural Commission	48
(21)	Assumption Parish Police Jury	48
(22)	St. Mary Parish Police Jury	48
(23)	Terrebonne Parish Police Jury	48
(24)	Atchafalaya Basin Levee District	48
(25)	Ecology Center of Louisiana, Inc.	48
(26)	National Sierra Club	48
(27)	Acadian Sierra Club	49
(28)	Sierra Club, Delta Chapter	49
(29)	Baton Rouge Sierra Club	51
(30)	National Audubon Society	51
(31)	National Audubon Society, Southwest Regional Representative	51
(32)	Orleans Audubon Society	51
(33)	Evangeline Economic Development District	53

TABLE OF CONTENTS (Cont'd)

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
	(34) Gulf Intracoastal Canal Association	53
	(35) American Waterways Operators	53
	(36) Greater Atchafalaya Basin Council	54
	(37) Acadian District Clearinghouse	54
	(38) Teche District Clearinghouse	54
c.	Citizen groups	54
	(1) School of Environmental Design, Louisiana State University, Baton Rouge, Louisiana	54
	(2) Clifford M. Danby, Private Citizen	55
	(3) Phyllis P. Pearson, Private Citizen	58
	(4) B. E. M. Skerrett, III, Private Citizen	58
d.	The following persons, organizations, and agencies requested statements but did not comment	60
	Joseph W. Jacob, Jr. Department of Marine Sciences Louisiana State University	60
	Bennie F. Maddox Coastal Engineering Research Center Washington, D. C.	60
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	David C. Arnoldi Louisiana State University	60
	Mrs. Laurent Port Allen, Louisiana	60
	Charlie Auridrsch Little Caillou Elementary School Chauvin, Louisiana	60
	Louis Duchs Barnard and Burk, Inc. Engineers and Constructors Baton Rouge, Louisiana	60
	Mrs. Ann W. Rudolph Ecological Information Analysis Center Columbus, Ohio	60

TABLE OF CONTENTS (Cont'd)

	<u>Page</u>
Carl V. Berthelot Livingston Sportsman Club Denham Springs, Louisiana	60
Jim Bishop Department of Marine Sciences Louisiana State University	60
A. F. Blair, Jr. Thibodaux, Louisiana	60
Hugh C. Brown Lands and Minerals Patterson, Louisiana	60
Bureau of Land Management Outer Continental Shelf Office New Orleans, Louisiana	60
Mrs. William Burt League of Women Voters of Louisiana Baton Rouge, Louisiana	60
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Cliff Carlin Baton Rouge, Louisiana	60
Thomas A. Carraway New Orleans, Louisiana	60
Brian Chustz Addis, Louisiana	60
Arthur Crowe Department of Marine Science Louisiana State University	60
Sidney A. Crow, Jr. Department of Food Science Louisiana State University	60
Clinton C. Crowson Baton Rouge, Louisiana	60
Mrs. Linda N. Doiron Baton Rouge, Louisiana	60
Philip P. Durocher Baton Rouge, Louisiana	60
Ms. Cynthia Lee Environment Information Center, Inc. New York, New York	60
John B. Frazier New Orleans, Louisiana	61

TABLE OF CONTENTS (Cont'd)

	<u>Page</u>
David Graf	
Morgan City Harbor and Terminal District	
Morgan City, Louisiana	61
Dr. John Green	
Biology Department	
Nicholls State University	
Thibodaux, Louisiana	61
John N. Gum, Jr.	
Plaquemine, Louisiana	61
Donald Harang	
Baton Rouge, Louisiana	61
Charles S. Hopkinson, Jr.	
Wyncote, Pennsylvania	61
Gerald Garner	
Hawkeye Hunting Club	
Center, Texas	61
T. W. Howey	
Department of Zoology	
Louisiana State University	61
Mrs. Richard Hutchinson	
Metairie, Louisiana	61
Joseph W. Jacob, Jr.	
Department of Marine Sciences	
Louisiana State University	61
Miss Edmonde Jaspers	
Louisiana State University	61
Walter L. Johnson	
The Daily Review	
Morgan City, Louisiana	61
Frank L. Keller	
Tulane University	61
Soon T. Kim	
Louisiana State University	61
Bjorn Kjerfve	
Louisiana State University	61
Robin J. Kuckyr	
Baton Rouge, Louisiana	61
Mrs. Emile J. Lehmann	
Morgan City Public Library	
Morgan City, Louisiana	61
Central Louisiana Electric Company	
Lafayette, Louisiana	61
Dr. Eugene C. McCann	
Economic and Industrial Research, Inc.	
Baton Rouge, Louisiana	61

TABLE OF CONTENTS (Cont'd)

	<u>Page</u>
Miss Judith A. Monte Louisiana State University	61
S. J. Morell City of Morgan City Morgan City, Louisiana	61
David B. Graf Morgan City Harbor and Terminal District Morgan City, Louisiana	61
Waldemar S. Nelson Waldemar S. Nelson and Company New Orleans, Louisiana	61
E. F. Nielsen Kaiser Engineers Oakland, California	61
Thomas Patin Baton Rouge, Louisiana	61
Jeffrey S. Peake Louisiana State University	61
H. M. Rhodes Oil Map, Incorporated New Orleans, Louisiana	61
Ms. Alice C. Rowland Coastal Studies Institute Louisiana State University	62
George M. Barson Ryckman-Edgerly-Tomlinson and Associates, Inc.	62
St. Louis, Missouri	62
G. B. Shaw G. B. Shaw Company, Inc. Houma, Louisiana	62
Andrew D. Short Coastal Studies Institute Louisiana State University	62
Ms. Alice Simmons Department of Marine Sciences Louisiana State University	62
David J. Singleton Baton Rouge, Louisiana	62
T. J. Soudelier, Jr. Avondale Shipyards, Inc. Morgan City, Louisiana	62
Edward Stern Department of Zoology and Physiology Louisiana State University	62

TABLE OF CONTENTS (Cont'd)

	<u>Page</u>
Vernon Behrhorst Lafayette, Louisiana	62
Paul H. Templet Baton Rouge, Louisiana	62
Terrebonne Port Commission Houma, Louisiana	62
Mrs. Roy B. Tillerson New Orleans, Louisiana	62
Kenneth Walton Department of Geography and Anthropology Louisiana State University	62
Robert L. Watkins New Orleans, Louisiana	62
H. W. Wedaa Northrop Corporation Anaheim, California	62
Robert T. Wilson Baton Rouge, Louisiana	62
H. C. Wurzlow Wurzlow Mineral and Realty Corporation Houma, Louisiana	62

TABLES

TABLE 1	BAYOU BOEUF AT AMELIA, LOUISIANA - MID-DEPTH CHLORIDES	5
TABLE 2	LOWER ATCHAFALAYA RIVER AT MORGAN CITY, LOUISIANA - MID-DEPTH CHLORIDES	6
TABLE 3	BAYOU TERREBONNE AT HOUMA, LOUISIANA MID-DEPTH CHLORIDES	7
TABLE 4	ATCHAFALAYA RIVER AT SIMMESPORT, LOUISIANA MID-DEPTH CHLORIDES	8
TABLE 5	ALTERNATIVE PLANS	27

APPENDICES

APPENDIX A	A LIST OF PLANTS	A-1
APPENDIX B	A LIST OF ANIMALS	B-1

PLATES

PLATE 1	
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ATCHAFALAYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

() Draft (X) Final Environmental Statement

Responsible Office: U. S. Army Engineer District, New Orleans
New Orleans, Louisiana

1. Name of Action: (X) Administrative () Legislative

2. Description of Action: Enlargement of existing navigation channels in Atchafalaya River and Bayous Chene, Boeuf, and Black to 20 feet by 400 feet to permit the passage of large offshore drilling rigs and related marine equipment. The project is located in Assumption, St. Mary, and Terrebonne Parishes, Louisiana.

3. Summary:

a. Environmental Impacts: The principal environmental effects will be the direct changes in land use occasioned by channel enlargement and disposal of spoil. Approximately 350 acres of land will be converted to new channel. An additional 7,000 acres, approximately, will be required for disposal of excavated material. The loss of marshland with associated detrital production will deleteriously affect the production of finfishes, mollusks, crabs, and shrimp which utilize detritus at various stages in their life span.* Dredging will cause temporary undesirable turbidity increases during construction and maintenance. The project will neither increase nor decrease salinity values in the project area. Construction of the project will enhance economic growth and social well-being. Elevated areas will most likely develop along the enlarged channel. This will result in more roads, expansion into existing marsh and solid/liquid waste disposal problems.

b. Adverse Environmental Effects. The main adverse effects are the loss of 350 acres of land to channel and modification of approximately 7,000 acres marsh and swamp with excavated material. This action is irreversible and irretrievable and the esthetical appeal and hunting and trapping and biological productivity unique to this swamp-marsh area will be lost. The proposed spoil areas will be significantly altered. Spoil areas in the marshes will not support the original plant and wildlife communities now present there. Seven archeological sites are known to exist in the project area. Channel enlargement will not affect the six middens located adjacent to the existing channel. One site located about 660 yards north of Bayou Chene will be zoned off by retention dikes so that it will not be buried.

* Also effected by the loss of wetland habitat will be several species of mammals, birds, reptiles and amphibians.

4. Alternatives: Three alternative alignments were studied which would provide the desired navigation benefits. All three were more damaging to the natural environment. Smaller channels (20 by 200 feet) along these alignments would not allow the passage of large drilling rigs. One alternative to the proposed action would be to forego the project. This inaction would deprive the residents of the tangible annual economic benefits to be derived from implementation of the authorized plan of improvement. No action would probably result, in the foreseeable future, in the movement of large construction yards to the Mississippi River or other deep channels, thereby reducing regional income, maintaining existing esthetics, and slowing the conversion of marsh to other uses.

5. Comments Received:

U. S. Department of the Interior, Office of the Secretary
U. S. Department of Commerce, the Assistant-Secretary of
Commerce

U. S. Department of Transportation, Coast Guard
U. S. Department of Health, Education, and Welfare
Environmental Protection Agency, Regional Administrator
Louisiana Department of Public Works
Louisiana Parks and Recreation Commission
Louisiana State Department of Health
Louisiana Wild Life and Fisheries Commission
Louisiana Advisory Commission on Coastal and Marine Resources
Louisiana State Land Office
National Wildlife Federation
Louisiana Wildlife Federation
Sierra Club, Delta Chapter
Baton Rouge Sierra Club
Audubon Society
School of Environmental Design, Louisiana State University,
Baton Rouge, Louisiana
Clifford M. Danby, Private Citizen
Phyllis P. Pearson, Private Citizen
B. E. M. Skerrett, III, Private Citizen

6. Draft statement to CEQ: 25 April 1972

JAN 15 1974

Final statement to CEQ: _____.

ATCHAFAHALYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

FINAL ENVIRONMENTAL STATEMENT

I. PROJECT DESCRIPTION.

The project, Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana, is located in the coastal area of south-central Louisiana. The stream segments included in this project are in Assumption, St. Mary, and Terrebonne Parishes and are located to the east and south of Morgan City, Louisiana, between U. S. Highway 90 and the Gulf of Mexico. The purpose of the project is to enlarge existing navigation channels sufficiently to permit the passage of large offshore drilling rigs and related marine equipment between construction and repair facilities on Bayous Boeuf and Black, and drilling sites in the Gulf of Mexico.

Additional development of project streams as authorized by the River and Harbor Act of 1968 (Public Law 90-483) and described in House Document 155, 90th Congress, 1st Session includes a 20- by 400-foot channel from the vicinity of the U. S. Highway 90 crossing over Bayou Boeuf to the Gulf of Mexico via the Gulf Intracoastal Waterway (GIWW), Bayou Chene, Avoca Island Cutoff (previously referred to as the Avoca Island-Cutoff Bayou drainage channel), the lower Atchafalaya River, and across Atchafalaya Bay to the 20-foot depth contour in the Gulf of Mexico, except that the channel width in Bayou Boeuf would be reduced to not less than 300 feet where necessary because of industrial developments on both sides of the bayou; and a 20- by 400-foot channel in Bayou Black and the GIWW from the shipyard on Bayou Black at U. S. Highway 90 to Bayou Chene. The entire Lower Atchafalaya River exceeds this authorized dimension, so its enlargement is not required. The authorized development is shown on the inclosed maps.

As shown on plate 2, the dredged material from the enlargement of Bayous Chene, Boeuf, and Black and the Avoca Island Cutoff will be deposited within diked areas on about 7,000 acres of swamp, marsh, and water areas along the waterway. The material dredged from Atchafalaya Bay will be deposited in open water to the west of the channel and the material in the Gulf of Mexico will be deposited east of the channel.

In order to expedite the project, local interests have accomplished the surveys, soil borings, testing, and the basic mapping. The project is now in the advanced stages of design.

The current benefit-cost ratio of the project, based on the August 1972 cost estimate is 1.2 to 1.

2. ENVIRONMENTAL SETTING WITHOUT THE PROJECT.

The Atchafalaya River is formed by the confluence of the Red and Old Rivers near Simmesport, Louisiana, from which it flows southward for about 135 miles to Atchafalaya Bay, on the Gulf of Mexico. Bayou Chene is a tidewater bayou that formerly ran from Bayou Boeuf just below U. S. Highway No. 90 to Bayou Shaffer. Its connection with Bayou Shaffer was severed by construction of the east Atchafalaya Basin protection levee, Avoca Island extension. It is now connected to the Avoca Island Cutoff, which empties into the Lower Atchafalaya River about 5 miles above the river mouth. Bayou Boeuf connects the lower portion of Lake Palourde to the Lower Atchafalaya River at Morgan City where it is cut off by Bayou Boeuf Lock. Bayou Black extends from Houma, Louisiana, in a course north of and parallel to U. S. Highway No. 90 to Gibson, Louisiana, where it crosses U. S. Highway No. 90 and thence approximately 8 miles to its junction with Bayou Chene.

a. Geological elements. The study area is located generally within the Central Gulf Coastal Plain and specifically within the Mississippi River deltaic plain near its western margin in an area of extremely low relief. The area consists principally of an extensive deltaic marshland, containing many lakes and inland bays, and is bounded on the north by the natural levee ridges of Bayou Teche and Bayou Boeuf and on the south by the Point au Fer Reef.

Except for Belle Isle, the relief is very low with elevations ranging from about 5 feet m.s.l. (mean sea level) on the natural levee ridges of Bayous Teche and Boeuf at the upper end of the project to near zero in the lower coastal marshes. Belle Isle is a salt dome between Wax Lake Outlet and the Lower Atchafalaya River which rises to an elevation of about 7.5 feet m.s.l.

The natural subsurface soils along the entire project consist generally of natural marsh and bay-sound deposits. These deposits possess essentially the same physical and chemical characteristics as the existing surface deposits of marsh and bay-sound sediments. No toxic or objectional materials are known to be present in the existing surface materials, and there is no evidence to indicate that these satisfactory conditions do not exist in the subsurface material to be dredged.

Due to the formation of alluvial ridges or natural levees, overflow from the Atchafalaya River into the area of Bayous Chene,

Boeuf, and Black was formerly restricted to floods and has been stopped completely since the construction of the east Atchafalaya Basin protection levee. The principal remaining formative process in the development and maintenance of these swamp and marsh areas is the accumulation of peat from plant deposits. The capacity of marsh plants to replenish soils by the formation of peat is insufficient to counteract subsidence and erosion, which have become the dominant processes in the marshes of the study area. Concomitant with the deprivation of river sediments, which are inorganic in nature, marsh soils have become highly organic from the accumulations of peat deposits.

b. Hydrological elements. The increment of the Lower Atchafalaya River which is considered in this statement is that portion from Berwick Bay to Atchafalaya Bay, a distance of about 17 miles. Wax Lake Outlet is a man-made channel situated about 10 miles west of and parallel to the Lower Atchafalaya River and extending from Six Mile Lake to Atchafalaya Bay. The outlet was constructed to divert floodwater from the Atchafalaya Basin Floodway. The project area is characterized by a maze of tidal bayous, ponds, and lakes which eventually drain into Atchafalaya Bay or the Gulf of Mexico. Four League Bay is a very large open-water area in the lower project area which has connections with both Atchafalaya Bay and the Gulf of Mexico. Other large lakes, which are mostly found in the lower project area near the gulf, include Carrion Crow Lake, Lake De Cade, Bay Junop, Lake Merchant, Lake De Cade (Lost Lake), and Caillou Lake. These large lakes are all very shallow with average depths of about 4 feet or less. Atchafalaya Bay is also very shallow, most of it being 4 feet or less in depth. These large open-water areas are generally turbid because of their shallow depth and the inflow of turbid water from the Lower Atchafalaya River.

All portions of Bayous Chene, Boeuf, and Black included in this project are existing Federal navigation and/or drainage channels. The entire Lower Atchafalaya River is navigable and the dimensions of that portion of the river included in this project exceed 20 by 400 feet. Existing depths of project channels (August 1967) are as follows: the channel in Bayou Chene and Avoca Island Cutoff ranges from 12 feet deep in the upper portion of Bayou Chene to 20 feet deep in the lower reaches of Avoca Island Cutoff; Bayou Boeuf ranges from 12 to 18 feet deep; and Bayou Black is about 8 feet deep above the GIWW and 12 feet deep in the lower reach that is part of the GIWW.

These streams are all subject to tidal influence with the normal range of fluctuation in the lower reaches being about 10 inches. However, protracted northerly winds may depress water levels as much as 3 feet and hurricanes may raise water levels

as much as 10 feet. Except for the Lower Atchafalaya River and Wax Lake Outlet, flow in these streams is sluggish unless otherwise influenced by tidal currents.

Bayou Penchant is a tributary of Bayou Chene. Bayou Penchant, from Bayou Chene to its entrance into Lake Penchant, is a part of the Louisiana Natural and Scenic Rivers System.

The draft environmental statement released to the public in February 1972 noted that salinity concentrations in the project area would be increased and that the duration of salinities would be increased by 50 percent. Further examination and evaluation of information reveals that the project will neither increase nor decrease salinity values in the project area.

Because of the large flow through the Lower Atchafalaya River and Wax Lake Outlet, water salinities throughout most of the project area are low. Salinity measurements have been made by the Corps of Engineers within the project area since 1946. Comparative salinity data are given in tables 1 through 4.

Examination of the Atchafalaya River at Simmesport, Louisiana, chlorides records for the period 1951 to 1971 shows the average chloride value is 42 p.p.m. with the average monthly maximum of 91 p.p.m. It might be well to note that the chloride concentrations are due to dissolved salts derived from the Red and Mississippi Rivers and not from the Gulf of Mexico waters. This location is above the areas influenced by saltwater intrusion from the gulf. Examination of the Lower Atchafalaya River at Morgan City, Louisiana, chlorides for the period 1946 to 1970 shows that the average chloride reading is 53 p.p.m. with the average monthly maximum being 113 p.p.m. Examination of the Bayou Boeuf at Amelia, Louisiana, chlorides for the period 1955 to 1970 shows the average chloride value is 90 p.p.m. with the average monthly maximum being 187 p.p.m. Examination of the Bayou Terrebonne at Houma, Louisiana, chlorides indicates that the average chloride concentration prior to completion of the Houma Navigation Canal is 113 p.p.m., whereas, the average since 1963 is 241 p.p.m., a difference of 128 p.p.m. The continuing filling of Atchafalaya Bay is increasing the net flow in the channel from the mouth to Eugene Island and as a result is effective in reducing saltwater intrusion.

TABLE I
BAYOU BOEUF AT AMELIA, LOUISIANA
MID-DEPTH CHLORIDES

MAXIMUM			MINIMUM		
p.p.m.	Cl ⁻	Date of occurrence	p.p.m.	Cl ⁻	Date of occurrence
180		12 Jan 1955	40		5 Apr 1955
175		10 Feb 1956	45		27 Mar 1956
165		27 Feb 1957	55		17 Jun 1957
108		22 Dec 1958	44		24 Apr 1958
160		9 Nov 1959	34		31 Mar 1959
190		28 Dec 1960	50		19 Apr 1960
270		4 Jan 1961			
1225		12 Sep 1961	26		6 Jun 1961
180		6 Aug 1962	30		30 Apr 1962
260		18 Nov 1963	55		3 Jun 1963
235		24 Aug 1964	44		30 Mar 1964
380		13 Sep 1965			
900		6 Aug 1965	50		24 May, 19 Jul, 5 Nov, & 6 Dec 1965
117		10 Oct 1966	55		28 Feb 1966
160		30 Jan 1967	42		10 Jul 1967
100		14 Oct 1968	50		13 & 20 May 1968
67		13 Jan 1969	40		5 & 20 May 1969
150		16 Jun 1970	30		29 Jun 1970

TABLE 2
LOWER ATCHAFALAYA RIVER AT MORGAN CITY, LOUISIANA
MID-DEPTH CHLORIDES

Year	MAXIMUM				MINIMUM			
	Low-water Season		High-water Season		Low-water Season		High-water Season	
	Month	Day	Cl ⁻ p.p.m.		Month	Day	Cl ⁻ p.p.m.	
1946	Nov	14	80					
1947	Dec	1	100		Feb	7	20	
1948	Nov	15	100		Dec	27	15	
1949	Oct	17	100		Jan	3	15	
1950	Aug	28	100		Feb	20	15	
1951	Jan	8	80		Mar	19	25	
1952	Dec	8	140		Apr	21	25	
1953	Dec	14	170		Jun	22	16	
1954	Jan	25	120		May	24	40	
1955	Oct	25	180		Apr	11	25	
1956	Jan	10	140		Mar	12	30	
1957	Feb	5	110		May	7	22	
1958	Dec	23	80		May	19	16	
1959	Nov	17	120		Mar	9	45	
1960	Nov	8	250		Apr	18	40	
1961	Sep	13	120		Jun	8	20	
1962	Sep	5	160		Apr	18	16	
1963	Oct	31	1,000		Apr	9	19	
1964	Jan	17	190		Mar	31	21	
1965	Sep	11	290		May	2	21	
1966	Oct	20	120		Jun	3	20	
1967	Sep	20	90		Jun	6	16	
1968	Nov	1	70		Jan	14	16	
1969	Oct	14	60		Jul	18	18	
1970	Sep	1	50		May	22	15	

TABLE 3
BAYOU TERREBONNE AT HOUMA, LOUISIANA
MID-DEPTH CHLORIDES

p.p.m. Cl ⁻	MAXIMUM		MINIMUM	
	Date of occurrence		p.p.m. Cl ⁻	Date of occurrence
176	30 Sep 1947		14	16-18 & 24 Dec 1947
850	9 Nov 1948		15	Mar, Sep, & Dec 1948
750	14 Dec 1949		8	19 Aug 1949
300	27 Dec 1950		25	28 Feb - 17 Mar 1950
230	6 Feb 1951		30	19, 20, & 30 Mar 1951
230	1 Dec 1952		20	15 Apr 1952
850	10, 11, & 13 Nov 1953		13	29 Jun 1953
3,500	22 Sep 1954		25	6 & 12 Jan 1954
220	6 Jan 1955		50	12 & 14 Apr 1955
475	18 Jun 1956		11	2 Oct 1956
700	2 Jul 1957		34	3 Apr 1957
172	21 Nov 1958		16	7 Sep 1958
2,700	4 Sep 1959		10	1, 3, & 5 Jun 1959
4,000	3 Oct 1960		70	7 & 10 May 1960
4,200	4 Nov 1961		18	23 Feb 1961
9,000	30 Aug 1962		30	1-3 May 1962
3,100	7 Nov 1963		50	21, 22, & 25 Apr 1963
6,500	24 & 25 Sep 1964		22	24 Apr 1964
3,200	23 Sep 1965		60	24 Jan, 19 Feb, 15 & 21 Mar, 10 May, & 11 & 16 Jul 1965
5,750	11 Nov 1966		30	6 Jan 1966
5,000	30 & 31 Oct 1967		25	9 Sep 1967
2,200	29 Nov 1968		32	1 Jan 1968
4,750	13 Oct 1969		60	4,6,7,9, & 10 May 1969
3,200	5 Aug 1970		30	15 Jun 1970

TABLE 4
ATCHAFALAYA RIVER AT SIMMESPORT, LOUISIANA
MID-DEPTH CHLORIDES

Year	Month	MAXIMUM		MINIMUM	
		Cl ⁻ p.p.m.	Month	Cl ⁻ p.p.m.	Month
1952	December	89	April	17	
1953	December	127	June	16	
1954	January	106	May	35	
1955	October	116	March	19	
1956	January	109	March	24	
1957	October	69	December	24	
1958	July	73	August	25	
1959	October	70	March	28	
1960	November	113	April	28	
1961	January	65	May	20	
1962	December	70	April	17	
1963	November	92	April	25	
1964	January	117	April	24	
1965	December	55	April	22	
1966	October	66	May	22	
1967	September	45	June	21	
1968	November	43	April	17	
1969	December	38	February	22	
1970	September	33	April	18	
1971	October	38	March	20	

The duration curves for the Lower Atchafalaya River at Morgan City since 1963 show a steady decrease in the chloride concentration. This is also true for the Wax Lake Outlet at Calumet. A steady improvement in the water quality (decreasing chloride concentrations) is noted for Bayou Boeuf at Amelia.

c. Archeological elements. Seven archeological sites are known to exist in the vicinity of the project. The 6 March 1973 Federal Register lists no sites on the National Register of Historic Places within the project area. No historic sites on the Register should be affected by the project.

A shell midden is located on the east bank of Bayou Boeuf about 2/10 of a mile above the junction of Bayous Boeuf and Chene. The site is on the natural levee of Bayou Boeuf and extends from the surface to a depth of about 4 inches. The midden profile extends along the bank for about 20 feet and might extend farther but because of industrial construction, this was impossible to determine. The site is presently slowly eroding away.

A shell midden is located on the south bank of Bayou Chene about 1/4 of a mile downstream from the junction of Bayous Chene and Boeuf. The midden is about 2 inches thick and starts about 4 inches below the present surface. The site is at the edge of the industrial canal.

A shell midden is located on a natural levee at the confluence of Bayou Chene and Bayou Boeuf about 1.4 miles south of Amelia, Louisiana. There are several live oaks growing on the site which

makes it easy to detect. The site extends about 150 feet along the west bank of Bayou Boeuf and about 100 feet along the west bank of Bayou Chene.

A shell midden is located along the west bank of Bayou Boeuf about 4/10 of a mile south of Highway 90. The midden begins about 2 inches below the present surface and extends down to about 10 inches below the surface.

A shell midden located on the east bank of Bayou Chene about 2.5 miles below the junction of Bayous Chene and Black is almost completely eroded away. Very little material is left. The midden is about 1 foot below the present surface and is about 2 inches thick.

A shell midden located on the west bank of Bayou Black at the confluence with the GIWW and Bayou Cocodrie begins at a depth of 2 feet and extends down another 6 inches. There is a camp located at this site. Because no pottery was recovered from these six sites, it was impossible to determine the cultural affiliation or the periods of habitation for these sites.

An earth-shell midden approximately 1 mile west of the junction of Bayous Chene and Black is located about 660 feet north of Bayou Chene. It was not possible to determine the extent of the site. A small collection, 5 sherds, was made from this site and three of these sherds were identified as Pontchartrain check-stamped ruins. This would suggest that the site had at one time been occupied by people of the Coles Creek culture (700-1100 A.D.). This was the only prerecorded site in the area. (Kathleen Byrd, Department of Geography, Louisiana State University, Baton Rouge, Louisiana.)

d. Botanical elements. Floral types present in the project area are front woods near the river and bayous, willow thickets, second-growth swamp and marshland. Front woods near the river and bayous are covered mainly with live oak, cottonwood, hackberry, sweetgum, American elm, and sycamore overstory with a vine-shrub understory of sawbriers, muscadine, trumpet creeper, deciduous holly, roughleaf dogwood, persimmon, wax myrtle, and water ash. Herbaceous cover in the front woods consists of spiny thistle, goldenrod, common ragweed, vervain, cocklebur, sensitive plant, bermuda grass, Johnson grass, and various sedges and rushes. The dominant overstory in the willow thicket is black willow with other common plants being blackberry and dewberry, smartweed, elephant's-ear, wild grape, and rattan vine. Dominant aboreal components in the swamp are baldcypress, tupelogum, pumpkin ash, and Drummond red maple. Vegetation on higher ground consists of nuttall oak, honey locust, buttonbush, palmetto, peppervine, and poison ivy along with numerous herbs, sedges, grasses, and

rushes. Areas of the swamp with standing water contain scattered trees mixed with pickerel weed, alligatorweed, buttonbush, swamp lily, frogbit, and lizard's tail. Spanish moss hangs gracefully from the limbs of many of the trees in the project area. Plants occurring on the spoil banks and borrow material in the marshes consists mainly of marsh-elder, eastern baccharis, elderberry, rattlebox, pigweed, morning glory, rose mallow and numerous species of the surrounding marsh. Elevation, drainage, and salinity are limiting factors which have an effect on marsh vegetation types. Fresh water marsh is dominant in the upper reaches of the project area with the major components being common cattail, arrowhead, alligatorweed, giant cutgrass, maidencane, and great bulrush. Fresh water aquatics include mosquito fern, water lettuce, water hyacinth, watermilfoil, naiads, duckweeds, coontail, and water lilies. Brackish water vegetation is located between the fresh water marsh and the Gulf of Mexico and consists of wiregrass, three-cornered grass, coco, deer pea, and marshmallow. Saline marsh is found near the Gulf of Mexico and includes salt grass, oystergrass, black rush, and glasswort; vegetation which can tolerate high salinities.

A list of the plants mentioned in the statement is included as Appendix I. The names are alphabetically listed by common name followed by the scientific name.

e. Zoological elements. Animals present in the vicinity of the proposed project include inhabitants of both the bottomland forest and marsh habitat types. Forest game animals are the grey and fox squirrels, swamp and cottontail rabbits, white-tail deer, and waterfowl. Furbearers present in the bottomland hardwoods are the opossum, raccoon, mink, otter, nutria, and muskrat. The bottomland hardwood forests, which flood seasonally, are excellent wood duck production and wintering areas. Wintering woodcock use the wooded areas also. The natural ridges support good stands of mast producing oaks which are a very valuable source of wildlife food especially for deer, squirrels, and wintering mallards and wood ducks. The forest land provides good habitat for numerous species of nongame birds including several species of passerine songbirds, cranes, herons, egrets, and ibises. Numerous reptiles, amphibians, crustaceans, mollusks, and lower forms of life are present in the project area. In general, the bottomland hardwood forest present in the Lower Atchafalaya River Basin in the vicinity of Bayous Chene, Boeuf, and Black is very productive of many species of both plant and animal life.

The marsh area affected by the proposed action is also very productive to many species of plants and animals. The mottled duck, a Louisiana coastal resident, is abundant in the marshes

and is entirely dependent on the coastal marshes for its survival. The entire life cycle of the mottled duck is carried out in the coastal marshes. The marshes also receive heavy use by wintering migratory waterfowl including the mallard, blue and green-winged teal, gadwall widgeon, pintail, shoveler, canvasback, lesser scaup, redhead and some blue and snow geese. The marshes near Point au Fer sometimes receive heavy use by geese. Other game birds using the marshes are the purple gallinule, rails, and common snipe. Fur resources are abundant in the marshes. Furbearers present include the otter, mink, raccoon, nutria, and muskrat with the latter two being most abundant. The American alligator is present in the marshes and forested wetlands and is listed as an endangered species by the U.S.D.I., Bureau of Sport Fisheries and Wildlife. Many of the nongame birds such as ibises, herons, and egrets are heavily dependent on the marshes for feeding and nesting areas.

The fishery resources of the proposed project area are diversified. Both the brackish and fresh water contingency of aquatic life may be encountered along the proposed project route depending on tide and flood stages and time of year. Fresh water species of game fish include largemouth bass, yellow bass, crappie, bluegill, green sunfish, warmouth bass, and several other sunfish. Channel, blue, and flathead catfish along with freshwater drum, several species of gar, Atlantic croaker, buffalo, shad, and mullet are sought commercially. Crayfish are abundant and harvested for sport and commercially. Shrimp and blue crabs occur at times in the lower distributaries of the Atchafalaya River. Atchafalaya Bay and associated waterways is used by spotted seatrout, red drum, sea and gafftopsail catfish, black drum, flounder, sheepshead and sand seatrout. The marshes are excellent nursery areas for shrimp and crabs. The marshes are also a source of nutrients essential to the biota of the Gulf of Mexico.

The importance of the fish and wildlife resources to the people of the area is evident in land-use patterns. The majority of the land, both forest and marsh, is leased for hunting purposes. Commercial fishing and trapping is a way of life to some people of the area. Sportsmen use the area for forest game and waterfowl hunting as well as fishing. The Avoca Island Duck Club is a very old and well-known duck hunting club just north of Bayou Chene.

A list of the animals mentioned in this statement is included as Appendix II. The names are alphabetically listed by common name followed by the scientific name.

f. Economic and social conditions.

The economic activity in Assumption, St. Mary, and Terrebonne Parishes generated population increases from 1960 to 1970 of 9.2 percent, 24.4 percent, and 25.1 percent, respectively. Assumption increased from 17,991 to 19,654; St. Mary increased from 48,833 to 60,752; and Terrebonne increased from 60,771 to 76,049. The largest towns in the three-parish area include Houma, with a 1970 population of 30,922, Morgan City with 16,586, and Franklin, with 9,325. Transportation in the study area is provided by U. S. Highway 90, a number of state and local roads, the Southern Pacific and Texas and Pacific railroads, as well as the Gulf Intracoastal Waterway (GIWW) and connecting waterways. There are also several airfields in the area.

Despite large expanses of marshland in the study area, sugarcane production in the alluvial ridges and higher elevations is of particular importance to the economy of the area. While the land in farms in the study area was only 3.1 percent of the state total in 1969, the value of crops sold was \$20.1 million, 6.8 percent of the state total. More than 70 percent of the cropland harvested was in sugarcane production.

The production of petroleum, natural gas, natural gas liquids, salt, and sulphur, is of major importance to the economy of the study area. In 1970 the value of onshore and offshore production in Assumption, St. Mary, and Terrebonne Parishes totaled \$1.26 billion, 24.7 percent of the value of mineral production in Louisiana. Many access and pipeline canals have been constructed in the marsh in developing petroleum and natural gas resources. Most of the production in the area is transported by pipeline, although some of the petroleum is shipped by barge to terminals at Morgan City.

Mineral production consisting primarily of oil and natural gas, and secondarily of salt and sulfur, is of major importance in and adjacent to the project area. Many access and pipeline canals have been constructed in the marsh by non-Federal interests in the exploitation of oil and natural gas. Most of the oil and gas produced in the general area is transported by pipeline, but some oil is shipped by barge to terminals in Morgan City. Facilities for the construction and repair of large offshore drilling rigs and related marine equipment are located on Bayous Boeuf and Black at U. S. Highway 90. Five public wharves are located on the Lower Atchafalaya River in Morgan City. Many privately-owned facilities for the handling of shrimp and other seafood, oilfield equipment, and supplies and for the mooring and servicing of offshore drilling and supply vessels are located on both banks of the Lower Atchafalaya River in Morgan City and Berwick. Other industries in these two cities include shrimp and seafood packing plants,

sugar mills, rice mills, food-processing plants, and canneries. Part of a relatively narrow strip of land bordering Bayou Boeuf is devoted to the raising of sugarcane and the grazing of cattle. Bayou Penchant from Bayou Chene to its entrance into Lake Penchant has been designated by an act of the Louisiana Legislature as a unit in the Natural and Scenic Rivers System. The purpose of this act is to insure the preservation of the designated streams in their natural, free-flowing condition by prohibiting channelization, clearing and snagging, channel realinement, and reservoir construction. The oil and natural gas fields in the marsh traversed by Bayou Penchant have been intensively developed. Bayou Penchant is crossed by three pipeline canals, and many access canals have been dredged from the bayou throughout most of its length. These access canals vary from short, dead-end canals leading to individual drilling sites or wells to longer canals interconnected with other canals and/or natural waterways. However, the bayou has not been included in any Federal or state water resource development project.

Prior to the adoption of a Federal project, some channel improvements were accomplished by local interests. Between 1870 and 1874 the Morgan Steamship Company dredged a 12- by 100-foot channel to the west of the present alignment. This channel was 12.5 miles long and entered the gulf to the west of the Point au Fer shell reef. The controlling depth of this channel, it appears, was never more than 10 feet, and it ultimately silted up. In 1907, the Atchafalaya Bay Ship Channel Company dredged a 14- by 100-foot toll channel along the route of the existing Federal project. A tug was provided to tow sailing vessels through the channel and to remove silt deposits by propeller agitation. This channel was purchased by the Federal Government in 1914. Local interests have dredged numerous other channels in the project area in connection with oilfield operations.

Existing Federal works in the project area include the Atchafalaya River, Morgan City to the Gulf of Mexico, Louisiana, project, authorized by the River and Harbor Act of 25 June 1910, which provides for the purchase of the channel constructed by the Atchafalaya Bay Ship Channel Company and its enlargement to 20 by 200 feet. Since 1914, no attempt has been made to maintain this project to its authorized dimensions. The GIWW, authorized by the River and Harbor Act of 24 July 1946 and prior River and Harbor Acts, is a 12- by 125-foot barge channel which extends from Florida to the Mexican border. The River and Harbor Act of 23 October 1962 provides for its enlargement to 16 by 150 feet from the Mississippi River to the Atchafalaya River and to 16 by 200 feet from the Atchafalaya River to the Sabine River, Louisiana, but construction has not been initiated. Features

of the Flood Control, Mississippi River and Tributaries project in the area include the east Atchafalaya Basin protection levee which extends from the Mississippi River at Morganza southward to Morgan City along Berwick Bay, Bayou Boeuf, Bayou Schaefer, and the Lower Atchafalaya River where it ends about 12 miles below Morgan City, and the Bayou Boeuf-Bayou Long drainage channel and improvement of Bayou Chene project which provides a 9- by 100-foot drainage and navigation channel generally along the landside toe of the east Atchafalaya Basin protection levee from the Bayou Sorrel Lock to the GIWW and the levee borrow pit below the GIWW to provide an outlet for intercepted drainage. The channel below the GIWW has been enlarged to 12 by 125 feet for use by waterway traffic when the Bayou Boeuf Lock is closed for repairs or emergencies and by waterway traffic desiring to avoid turbulent currents at the junction of Bayou Boeuf and the Lower Atchafalaya River during high river stages.

Future changes in the project area that will occur if the project is not installed are related mainly to the growth of the Atchafalaya River delta. This new delta will create new marshland that will be essentially fresh. This new marsh would provide habitat for wildlife. Concurrently with the growth of the active delta, the fresh-water zone will move seaward. Further industrial growth along the Lower Atchafalaya River and Bayous Black and Boeuf is expected.

Commerce over the Lower Atchafalaya River from Morgan City to the Gulf of Mexico in 1969 amounted to 4,246,872 tons, of which 61 percent was unmanufactured shell and 23 percent was crude petroleum shipments. Commerce on Bayous Chene, Boeuf, and Black for 1969 (latest records available) consisted of 1,726; 2,155,964; and 26,800 tons, respectively which excludes nearly 23,000,000 tons of through GIWW traffic in this reach.

g. Other related projects. The existing project, Atchafalaya River, Morgan City to the Gulf of Mexico, authorized by the River and Harbor Act of 25 June 1910, provides for a channel 20 feet deep over a bottom width of 200 feet, extending from the 20-foot depth contour in the Atchafalaya Bay to the same contour in the Gulf of Mexico. Enlargement of the channel was begun in August 1910 and completed October 1911. Since 1914, no attempt has been made to fully maintain the project to 20 by 200 feet.

The GIWW project was authorized by the River and Harbor Act of 24 July 1946 (Senate Document 242, 79th Congress, 2d Session) and prior River and Harbor Acts. The waterway extends from Florida to the Mexican Border generally parallel to the Gulf of Mexico coastline and crosses the Lower Atchafalaya River just south of

Morgan City, Louisiana. Its existing dimensions in the study area are 12 by 125 feet. Enlargement to 16 by 150 feet between the Mississippi and Lower Atchafalaya Rivers and to 16 by 200 feet between the Lower Atchafalaya and Sabine Rivers was authorized by the River and Harbor Act of 23 October 1962 (House Document 556, 87th Congress, 2d Session). Work on the enlargement has not been initiated due to the lack of local cooperation. This project also includes the 12- by 125-foot Morgan City-Port Allen Alternate Route, which joins the GIWW below Morgan City with the Mississippi River via the Atchafalaya River, the east Atchafalaya Basin protection levee borrow pit, existing streams, and a new land cut to the Mississippi River opposite Baton Rouge, Louisiana. The Bayou Boeuf lock in the east Atchafalaya Basin protection levee and the landside channels for waterway traffic were provided under the Flood Control, Mississippi River and Tributaries project. Except for the enlargement authorized in 1962, this project is complete.

The Intracoastal Waterway, Mississippi River to Bayou Teche, Louisiana, project, authorized by the River and Harbor Act of 2 March 1919 (House Document 610, 63d Congress, 2d Session), provides for a 5- by 40-foot channel from the Mississippi River to Bayou Teche about 6 miles west of Morgan City. In the study area, the waterway connects Houma, Louisiana, and Morgan City, Louisiana, via Bayou Black, Bayou Chene, Bayou Boeuf, and the Lower Atchafalaya River. This project has been largely superseded by the GIWW. No maintenance work has been undertaken on this project for many years.

Flood Control, Mississippi River and Tributaries is a comprehensive project for control of floods on the Mississippi River below Cape Girardeau, Missouri. It includes levees, floodways, channel stabilization, local flood protection in the alluvial flood plain, navigation channels, and other improvements. Improvements under this project of importance to the study are:

(1) East Atchafalaya Basin protection levee. This feature extends from the Mississippi River at Morganza, Louisiana, southward to a point about 12 miles below Morgan City, Louisiana. The GIWW crosses the levee through the Bayou Boeuf lock (75 by 1,156 by 13 feet) just east of Morgan City. The Morgan City-Port Allen Alternate Route crosses the levee about 37 miles north of the GIWW through Bayou Sorrel lock (56 by 797 by 14 feet).

(2) Atchafalaya Basin main channel improvement dredging. This feature provides for increasing the flood-carrying capacity of the Atchafalaya Basin Floodway by the development of a main channel having a cross-sectional area of 100,000 square feet below

the project flow line. This channel is being constructed in four stages to provide cross-sectional areas of 40,000, 60,000, 80,000, and ultimately 100,000 square feet. The 40,000- and 60,000-square foot channels are 100 percent and about 60 percent complete, respectively. As of 1 January 1966, the overall feature was about 40 percent complete. Work on this project has since been suspended until new funds are made available.

(3) Bayou Boeuf-Bayou Long drainage channel and improvement of Bayou Chene. This feature provides a 9- by 100-foot drainage and navigation channel generally along the landside toe of the east Atchafalaya Basin protection levee from the Bayou Sorrel lock to the GIWW and the levee borrow pit below the GIWW to provide an outlet for intercepted drainage. The channel below the GIWW has been enlarged to 12 by 125 feet for use by waterway traffic when the Bayou Boeuf lock is closed for repairs or emergencies and by waterway traffic desiring to avoid turbulent currents at the junction of Bayou Boeuf and the Lower Atchafalaya River during high river stages.

Between 1870 and 1874 the Morgan Steamship Company dredged a 12- by 100-foot channel to the west of the present alignment. This channel was 12.5 miles long and entered the gulf to the west of the Pointe au Fer shell reef. The controlling depth of this channel, it appears, was never more than 10 feet, and it ultimately silted up. The history of this channel is given in House Document 410, 56th Congress. In 1907 the Atchafalaya Bay Ship Channel Company completed a 14- by 100-foot toll channel along the route of the existing Federal project. The cost of this channel is reported at approximately \$125,000. A tug was provided to tow sailing vessels through the channel and to remove silt deposits by propeller agitation. This channel was included in the purchase by the Federal Government in 1914. Terrebonne Parish interests constructed the Houma Navigation Canal (a channel 15 by 150 feet connecting Houma, Louisiana, to the gulf). Maintenance of this channel has been assumed by the Federal Government. Local interests have dredged numerous other channels in the area to service oilfield operations.

Two large and three small public wharves, open for use by all without charge, are located on the Lower Atchafalaya River at Morgan City, Louisiana. The Morgan City Harbor and Terminal District, created in 1952, is responsible for operating these wharves and those of the Port of Morgan City. In addition to the five public wharves at Morgan City, there are numerous privately-owned facilities for the handling of shrimp, oilfield equipment and supplies, and for the mooring and servicing of offshore drilling and supply vessels. These privately-owned facilities are located on both banks of the Lower Atchafalaya River in Morgan

City and Berwick, Louisiana. Morgan City offers the last available area for industrial development along the Atchafalaya River before reaching the Gulf of Mexico. This is the terminal point for rail and highway connections, as the area below Morgan City is predominantly marshland.

Private terminals exist along Bayou Boeuf and the GIWW at the sites of oil operators and oil support industries. Fabrication and repair facilities are located on Bayou Boeuf and on Bayou Black. Adequate acreage is available for expansion of existing terminals and construction of new terminals along Bayous Boeuf, Black, and Chene, and the GIWW.

Public and private terminals in the project area are adequately connected with rail, water, and highway transportation facilities. No additional public wharves are required for the proposed project.

3. THE ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION.

The most severe and prolonged adverse environmental impact of the proposed channel construction and excavated material disposal will be the conversion of about 350 acres of swamp and marsh habitat to channel and the modification of about 2,300 acres of bottomland hardwood habitat and 4,700 acres of marsh habitat by placement of excavated material. This action is irreversible and irretrievable and the esthetic appeal and hunting and trapping provided by this swamp-marsh area will be lost. The 7,000 acres required for excavated material disposal will be significantly modified. Depth of excavated material in all areas will cover willow thicket, frontwoods, swamp, and fresh-water marsh habitat. About 3,500 acres of this spoil-disposal area will be subjected to periodical excavated material deposits from maintenance dredging. It is estimated that maintenance of the upper portion of the inland project reaches (Bayous Boeuf, Black and the GIWW section of Bayous Black and Chene) will be required 2 years after construction of the full project dimensions and every 10 years thereafter. Maintenance of the lower portion of the inland project reaches (Bayou Chene downstream of the GIWW and Avoca Island Cutoff) is estimated to be required 2 years after construction of the full project dimensions and every 4 years thereafter. The Atchafalaya Bay reach will initially require annual maintenance, but by 1990 the channelization anticipated to occur will cause the channel to scour. It is anticipated that the gulf reach will require maintenance dredging annually for the life of the project (50 years). Specific scheduling of maintenance dredging will be determined by soundings taken periodically by government channel patrol crews. Contract pipeline dredges will be used for maintenance work and all spoil sites will be diked to contain spoil and minimize area of impact.

The recommended project will cause major changes in 7,350 acres of fresh marsh and swamplands, reducing the productivity presently harvested from this area. This harvest has been evaluated by the Corps of Engineers based on a special study "The Fish and Wildlife Study of Coastal Louisiana and the Atchafalaya Basin Floodway." These reductions are 852,600 pounds per year of commercial and industrial fishery products, 2,646 man-days per year of hunting and other wildlife oriented recreations, 6,321 pelts per year, and 22,050 pounds of meat per year.

Partial revegetation in marsh areas, covered by excavated material, will occur within approximately one growing season after construction with surrounding marsh species from rhizones, seeds, and other vegetative parts. This vegetation on these higher, drier sites will be replaced within several years by weedy species and young shrubs. Future maintenance at 4-year intervals will further modify this area by covering this vegetation, thus requiring revegetation.

Partial revegetation in swamp areas, covered by excavated material, will occur within approximately one growing season after construction with herbaceous species of the surrounding swamp from rhizones, seeds, etc. The successional trend on this material would be the change of species from herbaceous cover to shrubs and within several years to black willow.

The same process which basically occurs after the initial spoil disposal will occur on the excavated material not used for maintenance dredging, but will be extended toward arboreal components such as cottonwood, sycamore, black willow, and hackberry.

The wetland environment now existing both in the wooded swamps and marshes will be converted to a higher-drier site capable of supporting upland species of wildlife when revegetation occurs. The carrying capacity of the excavated material areas for squirrel, waterfowl, otter, mink, muskrat, alligators, and other wetland animals will be lost. Browse and cover for deer and rabbits will be improved by the spoil areas. Some mast-producing oaks will return on excavated material areas after many years of succession. Spoil areas in the marshes will not support the original plant and wildlife communities now present in the marshes.

The aquatic fauna in the waterways to be dredged will be affected by the proposed action. The bottom-dwelling organisms and vegetation now present in streams along the alignment will be completely removed by dredging. The nursery areas in the marshes (4,700 acres) of importance to crustaceans, mollusks, and fish will be permanently changed due to spoil placement. The productivity of the streams for sport and commercial fish will be reduced.

Release of detrital materials from the estuary complex into the project channel will be restricted by spoil embankments. This will deleteriously affect the production of finfishes, mollusks, crabs, and shrimp which utilize detritus at various stages in their life span. Much of the commercially valuable seafood netted in coastal waters owes its existence directly to the marshes.

In open water areas, placement of excavated material of current-carried sediments may have an effect on the oyster-producing areas, especially gulfward of the Point au Fer area. Oysters and other benthic organisms in the vicinity may be covered with sediment carried from construction and maintenance activities. There are private leases of oysterbeds in the Point au Fer area which include both adult and seed oysters. The beds are not harvested in this area because of high bacterial counts. Adult oysters are transferred to other areas for seven days and are then available for harvesting. Temporary turbidity from construction and maintenance of this project may affect these oysterbeds which are a part of the economy of fishery resources of the area.

Bayou Penchant, a tributary of Bayou Chene, is included in Louisiana's Scenic River System. Excavated material areas will be set back a minimum of 1,000 feet from the bank of the bayou. The entry of turbid construction water into Bayou Penchant will temporarily reduce the natural attractiveness of this bayou. Spill boxes from the dikes spoil-disposal areas will be located as far from Bayou Penchant as practical in order to reduce the amount of turbid water entering the bayou. A man-made structure in Bayou Penchant, near the confluence of Bayou Chene, would degrade the natural esthetics of this scenic bayou.

Dredging will be accomplished by hydraulic dredges and the spoil will be contained within retention dikes to control the spread of dredging effluent. Waste-water control structures will be placed so that dredge water will be returned to the project channel in a manner to prevent or minimize any significant increase in turbidity from entering the project streams of other water bodies and land areas. The connections of Bayou Penchant and other major bayous and canals with Bayou Chene will be maintained by gaps.

During periods of high water, the excavated material areas after revegetation could provide refuge for deer, rabbits, raccoon, opossums, passerine bird life, snakes, and numerous small mammals. Reoccurring damage to some wildlife habitat will result from the disposal of spoil on maintenance dredging spoil areas.

Disposal of vegetation from the clearing of rights-of-way will be in conformance with Federal, state, and local laws governing

the prevention of environmental pollution. It may be necessary at some locations to clear trees past the top edge of the cut along the channel. Clearing will be restricted to a minimum consistent with safety to navigation. Industrial, commercial, and domestic users who discharge effluent into project channels will be required to conform with all regulations by the Environmental Protection Agency governing the discharge of such waste. Project contractors shall be required to exercise care in the handling and storage of hazardous materials to prevent accidental spillage or usage that would result in water pollution. They shall not be allowed to pollute lakes, ditches, rivers, bayous, canals, waterways, or reservoirs with fuels, oils, bitumens, calcium, chloride, insecticides, herbicides, or other similar materials harmful to fish, shellfish, or wildlife, or materials which may be a detriment to outdoor recreation.

Hydrologic data leads to the conclusion that the quality of water in the Lower Atchafalaya River is steadily improving, approaching the concentration previously cited for the Atchafalaya at Simmesport. Therefore, since the Lower Atchafalaya River is the principle source of saltwater encroachment into project area via the Avoca Island Cutoff, it is concluded that deepening of Bayous Black, Boeuf, and Chene will not introduce additional saltwater into the system. In fact, the quality of water within the system will more than likely improve since the Lower Atchafalaya River water is steadily improving.

An analytical investigation of the saltwater wedge predicts the toe of the wedge to occur at or about mile 136 in the Lower Atchafalaya River (i.e., approximately 6 miles below the entrance of Avoca Island Cutoff into the Lower Atchafalaya River). The mileage on the Atchafalaya River is measured from Old River (mile 0) downstream. A review of the existing data shows very good agreement with the analytical prediction.

The penetration of the wedge is inversely proportional to the channel velocity; therefore, any increase in this velocity will lead to a reduction in the wedge length. The projected filling of Atchafalaya Bay with sediments will lead to the formation of natural banks along the channel, thus increasing the channel velocities. These increased velocities will erode, gulfward, the saltwater wedge. Estimates of future wedge penetrations are:

Year 1980 - mile 138
Year 1990 - mile 143
Year 2020 - mile 148

In view of the analytical investigations, it is highly unlikely that a saltwater wedge will penetrate the river far enough to

affect the entrance to Avoca Island Cutoff. Therefore, it is concluded that any salinity intrusion into the Avoca Island Cutoff-Bayou Chene flow passages will be due only to straightforward mixing of salt water and river water. Ippen's analytical techniques show that the salinity concentrations will diffuse through the channel at a rate directly proportional to the flow velocity. This velocity is in turn dependent on the tidal head. For example, using a conservative estimate (i.e., maximum flow in a direction from Lower Atchafalaya to Bayou Boeuf) of the flood tide differential between the Lower Atchafalaya River and Bayou Boeuf, computations show that at the end of a 12-hour period (1/2 tidal cycle) the salinity at a point 7.8 miles up the cutoff would approach a value only equal to one-half that of the Atchafalaya River, after which, the tide would reverse and hence tend to reduce the salinity. Using 100 p.p.m. chlorides for the mid-depth salinity of the Lower Atchafalaya River, it is concluded from the previous statements that at a point 7.8 miles up the channel (Avoca Island Cutoff) the concentration would be 50 p.p.m. after 12 hours of tidal flow. The Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana, project will neither increase nor decrease salinity values in the project area.

An investigation of low-flow conditions in the Lower Atchafalaya River with high tide and during a hurricane revealed that salinities will increase in the project area. However, the salinities will increase with or without the project; i.e., the project will have no effect on existing salinity under the above mentioned conditions.

Periodic salinity observations, taken by the State of Louisiana, Department of Public Works, from August to December 1955 revealed mixed sea-water salinities of about 200 p.p.m. were established near the river mouth. Intermittent observations taken by the New Orleans District after July 1965 indicate that salinities in the river mouth ranged from 20 to 700 p.p.m.

During the 1946-1959 period, the offshore navigation channel was maintained to an enlarged 16- by 140-foot channel, and the highest salinity reported at Morgan City for the surface and bottom samples was 180 p.p.m. on 25 October 1955, with a basin discharge of 70,000 c.f.s. The September 1965 salinity penetration had, at Morgan City, surface chlorides of 200 p.p.m. and bottom chlorides of 290 p.p.m., with a basin discharge of 70,000 c.f.s. The penetration of the mixed sea-water prism into the river channel is estimated to occur about 35 days per year, when the flow in the Lower Atchafalaya River reaches 50,000 c.f.s. and continues to fall.

The water quality of the project streams now conforms to the standards set by the State of Louisiana and approved by the Secretary of the Department of the Interior. Beyond a temporary

increase in turbidity during dredging operations, the project will not cause any change in water quality. This increase in turbidity will not be sufficient to violate established water quality standards.

The National Park Service has been requested to survey and identify archaeological sites in the project area. Should their survey not be completed prior to initiation of construction, the Contractor will be required to employ an archaeologist to locate archeological sites. Salvage and preservation of archaeological sites, if discovered, will be coordinated with the National Park Service. Seven known archeological middens are in the area of construction.

Construction of the project will increase the potential for economic growth. Some expansion of population, industry, and regional municipal systems is possible. Should such expansion occur, an increase in quantities of solid and liquid wastes to be disposed of and a corresponding increase in environmental stresses incident to such disposal should occur.

The larger channel will permit equipment to move at higher speeds, and will, moreover, eliminate certain costly measures such as the need for utilizing flotation gear for certain types of equipment. The types of equipment involved include launch barges, drilling platforms, derrick barges, drilling tenders, and submersible drilling rigs. The quantity of equipment to be fabricated or repaired in the area would be the same, both with and without the project.

Large mobile rigs expected to be repaired at existing facilities in the area over the project life could not enter the Morgan City area without the project.

The number of large mobile rigs constructed in the Morgan City area would be the same, both with and without the project. Without the project, the rigs would be fabricated in two or three sections in the Morgan City area and the sections transferred elsewhere for joining and outfitting.

Enlargement and maintenance of the proposed navigation channel will reduce the initial cost of future construction of a flood control channel through Atchafalaya Bay to the open water of the Gulf of Mexico.

The project is located in, or within, reasonable commuting distance to the parishes of Assumption, Ascension, Iberville,

Livingston, St. John the Baptist, and St. Martin. All of these parishes have been designated as economically depressed. Consequently, construction of the project will provide needed employment for some of the workers in the depressed area.

4. ANY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED.

The main unavoidable adverse effect of the project is the land requirement for channel and spoil rights-of-way. The project will result in the permanent loss of approximately 350 acres of swamp and coastal marsh with attendant vertebrate and invertebrate fauna that will be converted to new channel. The vegetation and wetland fauna now found on the 7,000 acres of swamp and marshland required for spoil disposal will be killed, but such areas will, in time, become completely revegetated with more upland plant species. About 3,500 acres of this spoil disposal area will be subjected to periodical spoil deposits from maintenance dredging during the time required for channel stabilization with a declining amount required for the remainder of the project life. The 3,500 acres subject to periodical spoil deposits may be increased. Present plans are to acquire all spoil areas in perpetuity and release the front portions only when a landowner shows a need for the land. These rights-of-way now support fair populations of wildlife which provide minor recreation and income to hunters and trappers, respectively. The nursery areas in the marshes will be permanently changed due to spoil placement. The loss of nursery areas in the marshes will reduce the production of valuable marine animals. Construction and future maintenance dredging will temporarily increase the turbidity of the project channels and connecting waterways. The duration and extent of this turbidity cannot be lessened beyond the control that will be achieved by the control measures. The increased water turbidity will have a minor adverse effect on any sport and commercial fishing in the immediate area. The oyster-producing areas, especially the Point au Fer area, may be affected by placement of excavated materials on current-carried sediments in open water.

The recommended project will cause major changes in 7,350 acres of fresh marsh and swamplands, reducing the productivity presently harvested from this area. Although the Fish and Wildlife Service did not provide quantified values during coordination, values are available from a special study, conducted by an inter-agency group "The Fish and Wildlife Study of Coastal Louisiana and the Atchafalaya Basin Floodway." This project is located within Unit 5 of the above study and basic data related to that unit is used to obtain the following. Unit 5 contains 860,100 acres of estuarine marsh. The project purposes to modify 7,350 acres of this marsh, thus this modification represents about 0.85 percent of the total marsh in this unit.

The level of commercial fishing pressure on the Louisiana coast is such that it is reasonable to assume that any reduction in productivity will be reflected in a corresponding reduction in harvest. The study has indicated that estuarine marsh and swamps in the project area are capable of producing marketable commercial and industrial fish and shellfish at the rate of 116 pounds per acre per year. The modification of 7,350 acres of estuarine marsh and swamp will thus engender a loss in commercial and industrial fishing of 7,350 acres x 116 pounds per acre equals 852,600 pounds per year.

The level of sports hunting pressure on the Louisiana coast is such that it is reasonable to assume that any reduction in productivity will be reflected in a corresponding reduction in harvest. The study has indicated that estuarine marshes and swamps in the project area are capable of producing wildlife to support 0.2 man-days of hunting per acre per year, 0.1 man-days of large game hunting per acre and 0.04 man-days of wildlife-oriented recreation for a total of 0.36 man-days of sports hunting and wildlife-oriented recreation per acre per year. The modification of 7,350 acres of estuarine marsh and swamps will thus engender a loss in wildlife of 7,350 acres by 0.36 man-days per acre equals 2,646 man-days per year.

The level of commercial trapping pressure on the Louisiana coast is such that it is reasonable to assume that any reduction in productivity will be reflected in a corresponding reduction in harvest. The study indicated that estuarine marsh and swamps in coastal Louisiana is capable of producing marketable wildlife at the rate of 0.86 pelts per acre per year. The modification of 7,350 acres of estuarine marsh and swamp will thus engender a loss in commercial wildlife of 7,350 acres by 0.86 pelts per acre equals 6,321 pelts per year and 7,350 acres by 3 pounds per acre equals 22,050 pounds of meat per year.

The reduction in productivity in the fisheries resource has implications in the area of recreation. Reduced production of sports species may be reflected in reduced sports catches. However, since the size of the catch is only part of the attraction, and in view of the small percentage reduction that modification on one small part of the total available estuarine marsh would produce, and since the study indicates a large surplus of sports fishing potential, it is unlikely that any measurable reduction in the overall recreation potential of the area would be engendered by the project.

Construction of the project will increase the potential for economic growth. Some expansion of population, industry, and regional municipal systems is possible. Should such expansion occur, an increase in the quantities of solid and liquid wastes

to be disposed of, and a corresponding increase in environmental stresses incident to such disposal would occur.

Seven archeological midden sites are known to exist in the project area. Six midden sites adjacent to the existing channel will not be affected by channel enlargement. The site located about 660 feet north of the west bank of Bayou Chene will be zoned off by retention dikes so that it will not be buried.

The National Register of Historic Places does not list any areas within the project area.

5. ALTERNATIVES TO THE PROPOSED ACTION.

Before the recommended plan was adopted, the following alternatives were considered (see table 5):

a. Channel enlargement along the adopted alignment, but to a smaller dimension of 20 by 200 feet. The general environmental impact of this alternative differs from that of the approved plan only in magnitude. This alternative would require about 100 acres for new channel in addition to the existing channel and about 4,700 acres for spoil disposal. Construction and maintenance dredging will cause an increase in water turbidity in the same area that will be affected by the authorized plan. However, the duration of periods of high turbidity will be less because construction and maintenance of the smaller channels called for by this plan can be accomplished in less time. Channel enlargement according to this plan would enable oceangoing tugs and drilling tenders to operate at normal speeds without danger of grounding. Larger offshore drilling rigs cannot be moved in channels of this width. This alternative was not adopted because a higher benefit-cost ratio could be achieved by the approved channel, which is the smallest channel able to accommodate the larger offshore drilling rigs.

b. Channel enlargement (20 by 400 feet) from the upper project area to the Lower Atchafalaya River, as in the authorized plan, and a new channel from the mouth of the Lower Atchafalaya River along the east shore of Atchafalaya Bay to and across Point au Fer Island and out into the Gulf of Mexico to the -20-foot contour. This plan includes a 56-foot wide gated control structure at the entrance to Four League Bay to provide a navigation connection between the new channel and Four League Bay and to control the flow of water from the new channel into Four League Bay. A jettied entrance would be provided from the -6-foot contour in the gulf to Point au Fer Island. This alternative would have a greater environmental impact than the plan adopted. It would require about 1,250 acres for new channel, in addition to the existing channel,

and about 12,400 acres for excavated material disposal for the 20- by 400-foot channel. The new channel called for in this plan would permit the intrusion of salt water into the marshes adjacent to the channel on Point au Fer Island and along the eastern shore of Atchafalaya Bay. Because this new channel will not be carrying all of the Lower Atchafalaya River flow, this saltwater intrusion would probably be sufficient to cause drastic changes in these areas. The increased salinities could adversely affect oyster-producing areas in Four League Bay and areas to the east. Higher salinities would decrease brackish water habitat that is very productive of fin fish, crabs, and shrimp. Marsh vegetation in these areas would also revert to a more saline type that would be less productive of wildlife. This alternative would provide essentially the same navigation benefits as the authorized plan. It would be more expensive to construct, but would be cheaper to maintain. This plan was strongly opposed by Federal and state fish and wildlife interests, the Police Jury of Terrebonne Parish, and landowners because of its potentially adverse effects on fish and wildlife resources and was, therefore, not adopted.

c. Channel enlargement (20 by 400 feet) as called for by the authorized plan to a point at the lower end of Avoca Island Cutoff, with a new channel from this point to the Gulf of Mexico. The new channel segment would cross the marsh from the lower end of Avoca Island Cutoff to Atchafalaya Bay, and from this point, follow the alignment described in Section 5b along the eastern shore of Atchafalaya Bay to and across Point au Fer Island and out into the Gulf of Mexico, to the -20-foot contour. This alternative would require 1,450 acres of marsh for new channel and 14,300 acres for spoil disposal. Since the Lower Atchafalaya River and its flow are bypassed by the navigation channel under this plan, the saltwater intrusion would be greater under this plan than under those previously described. This plan is similar to the plan described in paragraph 5b except that a new channel is substituted for 5 miles of the Lower Atchafalaya River. It offers no additional benefits and would have much greater adverse effects on fish and wildlife resources; therefore, it was not adopted.

d. Channel enlargement (20 by 400 feet) from the upper project area to the lower end of Avoca Island Cutoff, as in the authorized plan, and from this point, a new channel across the marsh to the Houma Navigation Canal near its intersection with Bayou Petit Caillou, and enlargement of the Houma Navigation Canal to project dimensions and its extension to the -20-foot contour in the Gulf of Mexico. This route would require about 3,350 acres of marsh for new channel and about 20,800 acres of marsh for spoil disposal. Much of this marsh is very valuable fish and wildlife habitat. An undesirable increase in salinity in a large area of marsh adjacent to this new channel would be expected. Construction

cost would also be very high. This plan was obviously more costly, as well as more damaging to natural resources, than the other proposed plans and was not further considered.

e. No action. The Atchafalaya River is rapidly filling in Atchafalaya Bay and building a delta, which, by about 1990, is expected to extend beyond the Point au Fer shell reef. The open-water area of Atchafalaya Bay will become a marsh and lowland area. As this delta develops seaward, salinities in the project area will be reduced as the distance to the Gulf of Mexico increases. This new delta land should provide habitat for wildlife. The existing population centers in the upper project area will grow, but lowland elevations will prevent residential development within the lower project area. Further industrial developments, especially along the upper reaches of the project, would be anticipated. The marine construction activities which would be more efficiently served by the project would continue to operate but in a less efficient manner. The transportation benefits attributable to the project would be foregone.

f. Several alternative combinations of spoil-disposal areas were considered as follows:

(1) Area east of Bayou Boeuf between U. S. Highway 90 and Bayou Chene. This area was rejected primarily for economic reasons. Spoil would have to be pumped through a heavily, industrialized area and across a road to reach the excavated material area. This area is a swamp community similar to the site chosen for deposition of excavated material near the junction of Bayous Chene and Black. The environmental damages would be similar to the adopted area south of Bayou Chene.

(2) Area east of Bayou Black and north of GIWW. This area is similar to the adopted area west of Bayou Black except that the area west of the bayou is nearer to access from U. S. Highway 90 and the spoil fill will concentrate industrial development. The area east of Bayou Black is inaccessible and should remain primitive in nature for a longer period. Both areas are swamp and environmental damages would be similar at either site.

(3) Area south of GIWW near junction with Bayou Chene. Both areas are cypress-gum swamp and environmental damages would be similar at either site. Spoil fill in the proposed plan will concentrate industrial development. The area rejected will remain natural for a longer period of time due to lack of access.

(4) Area adjacent to Bayou Penchant. Since Bayou Penchant has been designated by an act of the Louisiana legislature as a unit in the Natural and Scenic Rivers System, an area on each side

of the bayou is reserved for conservation of scenic values. The area adjacent to Bayou Penchant is a fresh marsh habitat with a fringing swamp along Bayous Chene and Penchant to the west.

(5) Area east of Avoca Island Cutoff. This area was rejected in favor of the adopted area west of the project in order to conserve several bayous and Lake Gascha. This reach of the project area is primarily fresh marsh with scattered stands of willow swamp.

(6) Both sides of the channel across Atchafalaya Bay were considered. The prevailing currents in this area are from east to west. Spoil from excavation in Atchafalaya Bay was to be placed along each side of the channel to provide partial confinement and to aid in the development of a central channel through the bay. Recent surveys and sedimentation studies have indicated that the bay east of the channel is filling at a more rapid rate than the west side. It was therefore recommended that, in order to aid in further channelizing the riverflow, all spoil should be placed on the west side of the channel. The spoil from the bay channel will be discharged a minimum distance of 1,700 feet west of the channel centerline.

(7) Both sides of the channel reach from Point au Fer Island to the -20-foot contour in the Gulf of Mexico were considered. The spoil from the gulf channel excavation will be discharged a minimum distance of 1,700 feet east of the channel centerline. Drift in this reach is predominantly to the east, therefore maintenance would be less on the east side.

Only that reach of spoil north of the GIWW would be readily available for possible industrial expansion. This type of expansion would possibly occur with or without the project's spoil disposal.

6. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.

The project purpose is to enlarge existing navigation channels to accommodate the larger drilling platforms and service vessels now used in offshore drilling. Oceangoing tugs and drill tenders use the project bayous with difficulty, and, on occasion, become grounded. The existing construction and service facilities on Bayous Black and Boeuf cannot handle the larger drilling rigs now used in offshore drilling due to the constricted dimensions of the existing channels. The improvement of navigation will benefit present users immediately and will tend to improve the industrial expansion and development potentials of the area. Both short-term

and long-term uses provided by the project represent an enhancement to man's productivity and environment.

The land requirements to achieve these benefits present a conflict with other long-term uses of the area. The outdoor recreational opportunities and the esthetic attractiveness of those marshlands required for the channel will be lost and of those required for spoil disposal will be reduced. The degree of conflict will vary with the extent of existing developments. Some areas have already been extensively channelized and in such areas, the adverse effects on other long-term uses would be minimal. The most valuable area is Bayou Penchant, and provisions have been made to prevent any permanent interference with any uses of this area.

Implementation of this plan requires that the present generation make a long-term commitment to convert about 350 acres of marsh and swampland for channel and about 3,500 acres for maintenance spoil disposal. The 3,500 acres subject to periodical spoil deposits may be increased. Present plans are to acquire all spoil areas in perpetuity and release the front portions only when a landowner shows a need for land.

7. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED.

The conversion of 350 acres of swamp and marsh to new channel will be essentially irreversible and irretrievable. The esthetic appeal and hunting and trapping provided by this marsh area will be permanently lost due to its disappearance by conversion to channel. The 7,000 acres of marshland required for spoil disposal will be significantly altered. The spoil areas not used for channel maintenance, will, over a period of time, become revegetated. These spoil areas will probably be sufficiently revegetated within 2-4 years to fully revert to a wildlife habitat, though not as the original type. Minor changes in edaphic features or water levels of spoil-disposal areas may affect the type of vegetative regrowth. Because of the desirability of higher land for industrial use, land affected by this expansion will probably be spoil disposal sites.

Construction of the project will increase the potential for economic growth. Some expansion of population, industry, and regional municipal systems is possible. Should such expansion occur, an increase in quantities of solid and liquid wastes to be disposed of and a corresponding increase in environmental stresses incident to such disposal would occur.

Archeological sites within the channel rights-of-way will not be affected. All known sites will be explored or salvaged as warranted by their content. The midden located about 660 feet north of the west bank of Bayou Chene will be zoned off by retention dikes.

The investment in manpower and funds required for construction and maintenance of the project represents a permanent commitment.

8. COORDINATION WITH OTHERS.

a. Public participation. A public meeting on this project was held in Morgan City, Louisiana, on 20 November 1964 to determine the nature and extent of improvements desired by the project sponsors and to obtain the views of other interested parties. The notice of this public meeting was given wide distribution among Federal, state, and local agencies and individuals. A news release was circulated to the news media which announced the availability of the draft environmental statement upon written request.

At the meeting in Morgan City, Louisiana, on 18 July 1972 the people of the project area were afforded an opportunity to discuss the authorized navigation project on Bayous Chene, Boeuf, Black, and the Lower Atchafalaya River area. About 140 persons representing numerous Federal, state, and local government agencies; local civic organizations; petroleum interests; landowners; conservation and environmental groups; news media and other public interests as well as private individuals attended the meeting. Comment and/or recommendations were varied in that they ranged from total support of the project to total opposition of implementing the proposed plan.

The following agencies of individuals reported unfavorable comments on the draft statement:

Two Federal agencies, the U. S. Department of the Interior, and the U. S. Department of Commerce reported unfavorable comments on the project. One agency questions the long-term impact on the marshland in relation to benefits accruing to two industrial plants and has strong reservation concerning the issuance of the statement at this time. The other agency notes that the project would have a substantial, adverse influence on sport and commercial fishery resources within and beyond the area designated for construction.

Two state agencies, Louisiana Wild Life and Fisheries Commission and Louisiana Advisory Commission on Coastal and Marine Resources reported unfavorable comments on the project. One agency questions construction of the project at this time and the other agency

notes possible damage to oyster reefs through construction and maintenance dredging and saltwater intrusion.

Five private environmental agencies, National Wildlife Federation, Louisiana Wildlife Federation, New Orleans Sierra Club, Baton Rouge Sierra Club, and the Audubon Society, expressed disapproval of the project. Comments noted were that the whole ecosystem or marsh complex should be analyzed before any projects are initiated, and that more information on the benefit-cost ratio and alternatives should be given in the final statement.

Two private citizens, Phyllis Pearson and Clifford Danby, are opposed to construction of the project and reported unfavorable comments in their letters.

b. Government agencies. The draft environmental statement was sent to the following governmental agencies requesting their views and comments. Their comments are summarized below and copies of their letters are attached to the environmental statement.

(1) U. S. DEPARTMENT OF THE INTERIOR, OFFICE OF THE SECRETARY.

Comment: We question the long-term impact of the destruction of 7,350 acres of marshland on the ecology of the area in relation to the benefits accruing to two industrial plants.

Response: The plan for providing a navigation channel from both Bayou Boeuf and Bayou Black in the vicinity of U. S. Highway 90 to the 20-foot contour of the Gulf of Mexico is considered to be the most practical means for accomplishing the work authorized by the United States Congress. Environmental impacts were considered in the decision-making process. The benefits of the recommended plan comprise reduction in transportation costs and flood damages, both of which ultimately redound to the benefit of the general citizenry.

Comment: The Department of the Interior has strong reservations concerning the issuance of an environmental statement on the navigation improvement project for the Atchafalaya River and Bayous Chene, Boeuf, and Black at this time.

Response: It would appear that the Department of the Interior considers the project as influencing or being influenced by the Atchafalaya Basin Floodway project. The area lies outside and separate from the floodway and the two projects are not, in fact, interrelated.

Comment: We question the implication that salinity intrusion into the area will result in changes that will not be drastic or

involve a substantial area. The labyrinth of waterways and associated marshes that will be affected is extensive and the effects on the bayous are undetermined.

Response: Detailed analyses summarized in this statement, support the conclusion that no increase in salinity concentrations will be induced by the project.

Comment: The environmental impact section should be expanded to show the probable effect of spoil placement adjacent to Bayou Penchant, and state how much this effect will be reduced by not placing spoil within 1,000 feet of the bayou, as proposed. If the adverse impact of placing spoil 1,000 feet away from the bayou is still significant, then a discussion of spoil placement further away should be included under alternatives.

Response: The impact on Bayou Penchant has been included in the statement. Placement of spoil 1,000 feet from the bayou will have no material detrimental effect on the existing waterway, and no basis exists for considering more distance location of the spoil.

Comment: In view of the severe subsidence and erosion along the Louisiana coast, the effects that this project could have on continued subsidence and/or erosion should be discussed. Discussion should be expanded to show whether or not this project offers the opportunity to direct or influence the growth pattern of the delta now forming naturally in the Atchafalaya Bay. It appears probable that spoil deposit at the side of the channel in the vicinity of Atchafalaya Bay will influence delta formation, westerly water current, and erosion of the gulf shoreline. No mention is made in the adverse environmental effects section that shoaling may obstruct the mouth of some tributaries. There is no discussion of the possible effects the project will have on subsidence of the coastal area.

Response: Although subsidence and erosion are the most dominant geologic processes occurring along the Louisiana coast at the present time, the influence of these two processes diminishes in a westerly direction away from the present Mississippi River. Subsidence in particular has exerted a much less pronounced effect in the project area as evidenced by the shallow depth of the Pleistocene surface. Erosion, in the form of general shoreline retreat, has been occurring around all the Atchafalaya Bay, but has been most active west of the proposed channel.

The phenomena associated with the formation of a naturally occurring delta in the Atchafalaya Bay, will effectively mask any small effects on subsidence and erosion which may result from

the proposed channel. The formation of the delta will result in shoreline advance around the entire perimeter of the Bay and will in fact, probably result in the need for continual maintenance dredging in the channel. Subsidence will be insignificant because of the shallow depth of the stable Pleistocene Prairie Formation, and because the increased rate of sedimentation will offset any contemporaneous subsidence resulting from consolidation of recent deltaic sediments.

The normal westerly littoral drift has not been effectively interrupted by existing spoil banks as evidenced by the sediment bulge now forming to the west of the Lower Atchafalaya River. Consequently, there is no evidence to indicate that any significant adverse effects will result from the placement of additional spoil deposits at the side of the channel.

Comment: We question that rationale behind the no-project alternative conclusion reached in the draft statement.

Response: Discussion of the no-action alternative has been expanded in this statement.

Comment: This proposed project will not adversely affect any existing or proposed units of the National Park system, nor any historic, natural, or environmental education sites eligible or considered potentially eligible for the National Landmark Program.

Response: Concur.

Comment: The statement should discuss archeological and historic values and show that such values are either present or absent.

Response: Information on such values has been included in this statement.

Comment: We suggest that the final environmental statement should contain evidence of recent consultation of the National Register of Historic Places.

Response: The latest listing of National Register of Historic Places has been consulted and the statement now so notes. No historic places are in the project area.

Comment: The final statement should contain evidence of recent contact with the Historic Preservation Officer for the State of Louisiana and a copy of comments concerning the effect of the undertaking upon any historical and archeological resources which

may be in the process of nomination to the National Register of Historic Places.

Response: The draft environmental statement was sent to the Historic Preservation Officer for the State of Louisiana during coordination. No comments were received.

Comment: In the case of properties under the control or jurisdiction of the U. S. Government, the statement should include a discussion of steps taken to comply with Section 2(b) of Executive Order 11593 of May 13, 1971, entitled "Protection and Enhancement of the Cultural Environment."

Response: Receipt and consideration of comment is acknowledged.

(2) U. S. DEPARTMENT OF COMMERCE, THE ASSISTANT SECRETARY OF COMMERCE.

Comment: The project would have a substantial adverse influence on sport and commercial fishery resources within and beyond the area designated for construction.

Response: Impacts on sport and commercial fishery resources are discussed in the statement.

Comment: The project would not be conducive to the production of valuable marine animals because of the loss of marsh areas.

Response: Concur. The loss of nursery areas in the marshes will tend to reduce the production of marine animals.

Comment: We suggest that a similar discussion be included in section 3 and that reference to this kind of damage be made again in section 4.

Response: Such information has been included in the final statement.

(3) U. S. DEPARTMENT OF TRANSPORTATION, COAST GUARD.

Comment: No objection is made to the proposed project as regards Section 102(2)(c), Public Law 91-190.

(4) U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE.

Comment: The draft environmental impact statement is approved with comments.

Comment: It would seem appropriate to hold another public hearing to obtain current public opinion since it has been over 7 years since the previous hearing was held.

Response: Another public meeting for this project was held in Morgan City, Louisiana, on 18 July 1972.

(5) ENVIRONMENTAL PROTECTION AGENCY, REGIONAL ADMINISTRATOR.

Comment: The volume and type of material to be moved in constructing the new channel would be helpful in assessing possible effects on the existing marshland. Is the nature of the dredge material such that it cannot be confined in a smaller area?

Response: Dikes for retaining dredged materials must be built of in situ material which is inherently weak. The dikes were designed to minimize the area required for retaining dredged materials, consistent with soil strengths in the area.

Comment: Will the spoil placement as proposed by this project permit normal water movement in the area adjacent to the project area?

Response: No significant watercourses will be blocked. No significant ponding will be allowed. Transfer of detrital material between the enlarged channel and surrounding marshes will, however, be limited to gaps in the spoil banks.

Comment: No mention was made in the statement as to the results of the soil borings or testing as to any toxic substances in the dredge material.

Response: The natural subsurface soils along the entire project consist generally of natural marsh and bay-sound deposits. These deposits possess essentially the same physical and chemical characteristics as the existing surface deposits of marsh and bay-sound sediments. No toxic or objectionable materials are known to be present in the existing surface materials, and there is no evidence to indicate that these satisfactory conditions do not exist in the subsurface material to be dredged.

Comment: Can we assume that, until Atchafalaya Bay is closed by siltation (about 1990), the existing freshwater marsh in the project area of influence will become saltwater marsh. Following the closure of Atchafalaya Bay by silt, will the area revert to

a freshwater marsh, or will the area continue to be saltwater marsh due to the maintained 20- by 400-foot channel out to the 20-foot elevation?

Response: No increase in salinity concentration will occur. Accordingly, no changes in the type of marsh are anticipated.

Comment: The discussion as to the relationship of this project to other Corps of Engineers' projects and studies in the area would be helpful in assessing possible impacts of the project.

Response: Such information has been incorporated into this statement.

Comment: The use of diked areas for depositing the spoil in the inland areas of the project is to be commended. There may be some question on the general desirability of open-water dumping of dredged material as proposed in Atchafalaya Bay. However, with the current heavy silt load that is being deposited in the area by the Atchafalaya River, the effects of your project probably will not be significant.

Response: Concur.

Comment: The use of the spoil banks for location of industry would have secondary effects which were not discussed in this draft.

Response: Such information has now been included in this statement. Only that reach of spoil, north of the GIWW, having highway and railroad access would be readily available for possible industrial expansion. This type of expansion would probably occur with or without the project.

Comment: We suggest that consideration be given to reserving these spoil banks as islands for bird sanctuaries or rookeries.

Response: Under the project requirements as set forth in the authorizing act, local interests are required to provide the lands for disposal areas and dikes, but may not be required to reserve such areas for wildlife use. It is likely, however, that the disposal areas and their related dikes will, for the most part, remain to serve as wildlife habitat.

Comment: We believe additional information is needed on the alternatives as presented in the statement.

Response: The discussion of alternatives has been expanded in this statement.

(6) LOUISIANA DEPARTMENT OF PUBLIC WORKS.

Comment: We concur in general with the material presented and wish to compliment you on your realistic treatment and views of the anticipated impact resulting from the construction of this proposed project.

Response: Noted.

Comment: The vegetation now growing on designated spoil areas will not all be killed because the entire area will not necessarily be covered with sufficient spoil to kill the growth.

Response: The depth of spoil in these areas will be sufficient to cover herbaceous vegetation and kill the arboreal components in the frontwoods, cypress-gum swamp, and willow thickets.

Comment: Since Bayou Boeuf has existing depths ranging from 12-18 feet deep, it does not follow that dredging to a project depth of 20 feet will increase salinities by 50 percent. Neither does it necessarily increase salinities of Bayou Penchant since no dredging will be performed in that bayou.

Response: Concur. There will be no change in the salinity concentrations in the project area.

(7) LOUISIANA PARKS AND RECREATION COMMISSION.

Comment: We feel that both the change and the effects of the change in salinity in Bayou Penchant deserve further study and consideration.

Response: Detailed analyses summarized in this statement support the conclusion that no increases in salinity in Bayou Penchant will occur.

(8) LOUISIANA STATE DEPARTMENT OF HEALTH.

Comment: We find no objection to this project from a public health standpoint.

(9) LOUISIANA WILD LIFE AND FISHERIES COMMISSION.

Comment: It is felt that some mention of anticipated further maintenance be included in this project review in that continuing annual maintenance will constitute increased turbidities during and after this type of work. Recognizing this may be considered temporary, but nevertheless will be identified with the project on a continuing basis as maintenance is required.

Response: Concur. Turbidity will be associated with maintenance dredging. However, this condition will only be of short duration.

Comment: The existing oyster leases immediately west of Point au Fer could conceivably be damaged by any dredging activity in this area. If not directly by construction activities, substantial oyster mortalities could result from movement of spoil or dredge material onto these beds.

Response: It is possible that some spoil during construction and maintenance dredging of the bay and gulf reaches will be deposited over existing oyster leases immediately west of Point au Fer.

Comment: Any shoaling or spoil deposition in the area between Point au Fer Island and the southwesternmost marshes of Terrebonne Parish could alter water currents or general hydrological conditions and be damaging to oyster production in Four League Bay.

Response: The project will neither increase nor decrease the deposition of sediment occurring in the area. By 1990 it is anticipated that the bay will be filled with or without the project. The sediment could be damaging to oyster production in Four League Bay.

Comment: The enlarged channel could contribute to the increase in salinities in this general area and could contribute to a decline in oyster production in Four League Bay.

Response: No increase in salinity concentration will occur in the project area.

Comment: With the widening and deepening of the approach channel across Atchafalaya Bay and subsequent enlargement of the Bayou Chene segment of the channel during periods of low inflow, saltwater intrusion could result in increased salinities in the Intracoastal Waterway and adjacent swamps and alter present ecological conditions which would be damaging to fish and wildlife resources.

Response: No increase in salinity concentration will occur in the project area.

Comment: Any changes in duration and amounts of Atchafalaya River water entering from the river into Four League Bay and Blue Hammock Bayou could have serious and long-term effects on seed oyster production.

Response: Concur, but none are anticipated.

Comment: In the event damages, either direct or indirect, occur to existing oyster leases within or adjacent to the project area, it should be the responsibility of the project for any liabilities incurred. In addition, project sponsors should negotiate with individual oyster lessees in the event damages or damage claims arise.

Response: The Morgan City Harbor and Terminal District is the local assuring agency for the project and is responsible for any damages caused by the project. Any claims or damages would be resolved by the district.

Comment: All spoil should be confined or contained to the maximum degree possible to prevent its spilling onto any adjacent marshlands or any adjacent bayous, channels, or waterbodies.

Response: All spoils will be confined or contained to the maximum degree practicable.

(10) LOUISIANA STREAM CONTROL COMMISSION.

No comments received.

(11) LOUISIANA DEPARTMENT OF HIGHWAYS.

No comments received.

(12) LOUISIANA COMMISSION ON INTERGOVERNMENTAL RELATIONS.

No comments received.

(13) CURATOR OF ARCHEOLOGY, DEPARTMENT OF GEOGRAPHY AND ANTHROPOLOGY, LOUISIANA STATE UNIVERSITY.

No comments received.

(14) LOUISIANA PLANNING OFFICE.

No comments received.

(15) LOUISIANA ADVISORY COMMISSION ON COASTAL AND MARINE RESOURCES.

Comment: The implementation of a project such as the creation of this new channel without consideration of the attendant effects on the region of which it is a part would appear contrary to the provisions of the National Environmental Policy Act (NEPA) and contrary of the spirit of Act 35 establishing our Commission.

Response: This environmental impact statement identifies and describes all known significant impacts and consequences of the implementation of the project. The project is indicated to be the most practicable means for accomplishing the purposes embodied in the Congressional Act authorizing it. Any of the practicable alternatives available for accomplishing the project purposes would involve environmental consequences more severe than those associated with the project.

(16) LOUISIANA DEPARTMENT OF CONSERVATION.

No comments received.

(17) LOUISIANA STATE LAND OFFICE.

Comment: The State Land Office offers only the recommendation and request that utmost caution be exercised in disposal of spoil so as not to cause or create artificial sedimentation which might be construed by private property owners to be natural accretion.

Response: A system of earth dikes and spill boxes will be constructed to confine the spoil within the spoil areas and return the waste water to the channels being dredged or to the Lower Atchafalaya River.

(18) NATIONAL WILDLIFE FEDERATION.

Comment: The timing of this draft statement merits serious reconsideration. It is most reasonable to examine the impacts of projects such as this after the full ecosystem involved has been studied and the most environmentally compatible method of flood control developed.

Response: This environmental impact statement identifies and describes all known significant impacts and consequences of the implementation of the project. The project is indicated to be the most practicable means for accomplishing the purposes embodied in the Congressional Act authorizing it. Any of the practicable alternatives available for accomplishing the project purposes would involve environmental consequences more severe than those associated with the project.

Comment: The Corps of Engineers should consider the project in the context of the ecosystem in which it lies and ongoing projects and studies which directly affect it, and should include in the statement the environmental and engineering information developed in these projects and studies.

Response: See prior response.

Comment: The draft statement affords an inadequate basis for comment in that it does not disclose any elements of the critical "benefit-cost" analysis which purports to justify the project.

Response: The environmental statement, as defined by the National Environmental Policy Act (NEPA) and in the growing manner of jurisprudence interpreting that act, is a vehicle for disclosing, in physical terms, all information concerning proposed actions and their attendant consequences. The intricacies of the benefit/cost analyses would, if included in the statement, contribute nothing to achieving the purpose for which the statement is prepared; i.e., to establish the background of relevant information upon which the agency decided to act and to further establish that the background was sufficiently comprehensive to support the decision made. The simple inclusion of the benefit/cost ratio is sufficient for this - the details of the analyses upon which the economic stance of any proposal is based are included in other planning documents which are matters of public record.

Comment: The draft contains an inadequate discussion of alternatives.

Response: The discussion of alternatives has been expanded in this statement, and a tabular comparison of alternatives have been included.

Comment: The most obvious alternative to building huge oil rigs on a small bayou and digging a big channel to float them out to the Gulf of Mexico is to build and float them elsewhere, when a channel is already large enough and the environmental impact less severe.

Response: The rig construction facilities are already established on the upper reaches of this recommended project, and large rigs are already being constructed there. The current operation is however, inefficient, because the rigs must be constructed in modules and transported elsewhere for assembly and outfitting.

Comment: No benefit-cost information is presented for review by anyone, including persons who might be interested in locating the enterprise in more logical areas which have already been industrialized and which already have sufficient access to the gulf. This type of analysis and information is integral to any discussion of "no-action" alternatives.

Response: See response to third comment by the National Wildlife Federation. The marine construction activities which will be served by the project are operating now and would continue to operate in the absence of the project. They would, however, operate less efficiently, in that the larger rigs must be constructed in sections and transported elsewhere for assembly and outfitting.

Comment: Other apparently unexplored alternatives include passage along the GIWW to Morgan City and out the Atchafalaya River, construction of the larger rigs at Morgan City, or consideration of means other than navigation for transporting the rigs from the proposed construction site.

Response: The alternative to build a larger lock joining the GIWW from the east side to the Atchafalaya River was considered early in the preauthorization studies and was found to have a prohibitively high cost. No practicable means for transporting rigs from the construction site, other than by water are available.

Comment: The draft statement gives no basis for comparison of alternatives, no insight into the critical benefit-cost method of choice.

Response: The section on alternatives has been expanded in their statements, and a tabular comparison of alternatives has been included. Also, see response to third comment by the National Wildlife Federation.

Comment: The draft statement affords an inadequate basis for comment in that it arbitrarily ignores the scope of the project's environmental impact and its relationship to other projects, state, and Federal policies, and the Atchafalaya Basin.

Response: Noted. This statement includes additional coverage in the areas mentioned.

Comment: The statement makes no mention of the effect of the natural drainage, or of the entire project on industrialization in the area and related land-use development.

Response: Coverage of these aspects has been incorporated into this statement.

Comment: With the single exception of a reference to a state law protecting Bayou Penchant, the reviewer is at a loss to know what consideration was given to Louisiana's important coastal laws, policies, and programs, or to such Federal policies and laws as

those contained in the Estuarine Areas Protection Act of 1968, the Federal Fish and Wildlife Act of 1956, the Land and Water Conservation Fund Act of 1965 and the pending National Coastal and Estuarine Zone Management Act of 1971.

Response: In so far as can be determined, full consideration has been given to all existing state and Federal laws, policies, and programs applicable to the project area, including those cited in the comment.

Comment: The reviewer is precluded from seeing how compliance with or deviation from these laws and policies were quantified in arriving at the alleged 1.2 to 1 benefit-cost ratio for this project.

Response: See response to third comment by the National Wildlife Federation.

Comment: The project is treated as if it lay in a vacuum, unrelated to the Atchafalaya Basin ecosystem and to the Corps' major project affecting this ecosystem. The future of the basin; its channel, its sediment, its output, and its environment; depends on the pending Atchafalaya Basin flood control project which is now the subject of intensive NEPA review.

Response: The area influenced by this project lies outside and separate from the floodway and the projects are not, in fact, interrelated.

Comment: The Corps pays small observance to its understanding with the National Wildlife Federation when it decides to channel in the name of "navigation" where it agreed to reconsider for "flood control."

Response: The understanding referred to was that the main channel dredging program for the Atchafalaya Basin Floodway would be deferred pending completion of an environmental statement on the Floodway. The project herein described is unrelated to that understanding.

Comment: The Corps violates the spirit and mandate of NEPA when it attempts to destroy piecemeal what it has conceded must be studied overall.

Response: This environmental statement was prepared in consonance with the requirements of NEPA as we understand them.

Comment: The Corps simply cannot issue a legally valid NEPA assessment of the environment or available alternatives in this

project area until it determines the course of action in the major flood control project and its environmental impact on this area.

Response: See four preceding comments.

Comment: The statement is premature.

Response: There is no basis for the Corps to refuse to proceed with the implementation of this project in accordance with a Congressional directive in the form of the legislation authorizing and funding it.

Comment: The statement says too little about the project for any such conclusions. We have addressed the statement's compliance with section 102(2)(c) of NEPA and found it so inadequate that it denies the right of the National Wildlife Federation and others to make meaningful comments. This inadequacy cannot be remedied by issuing a final impact statement, for such a procedure would effectively deny the right of agencies and citizens to comment before the final environmental decisions are made. We recommend, therefore, that a draft environmental statement containing adequate discussion in each deficient area noted above be prepared and circulated when all relevant information is known.

Response: The final environmental statement has incorporated all known impacts.

(19) LOUISIANA WILDLIFE FEDERATION.

Comment: We seriously doubt that the explanation given in the draft statement is a valid reason for rejecting the alternative of no action.

Response: The discussion on the "no-action" alternative has been expanded to more clearly establish the reasons for rejecting this alternative.

Comment: We recommend the use of the matrix analysis system in preparation of environmental statements.

Response: The matrix analysis system is recognized to be one tool which may be used for evaluating the environmental impact of a project. It was not used in this study, our analysis was based upon the determination of resources, habitat, social, and economic benefits.

Comment: We believe the loss of 7,000 acres of swamp, marsh, and water area due to project works should be accessed as a percent of the total degradation of Louisiana's coastal marsh from Federal, state, and private activities.

Response: The estuarine area between Bayou Lafourche and the Atchafalaya Basin contains 860,100 acres of marsh. The 7,350 acres of this marsh to be modified by the project represents about 0.85 percent of the total area of the unit.

Comment: We believe this project should be evaluated in terms of its effect, if any, on the entire Atchafalaya Basin ecosystem.

Response: This information has been incorporated into the final statement.

Comment: The final statement should detail assurances that project works will in no way deter creation of a new delta in Atchafalaya Bay.

Response: The project will not prevent the filling of Atchafalaya Bay with sediments.

Comment: We are disturbed by the lack of opportunity for public input on this project and particularly by the fact that the only public meeting held was 8 years ago. We recommend that additional meetings be scheduled.

Response: A public meeting for this project was held in Morgan City, Louisiana, on 18 July 1972.

Comment: We consider the benefit-cost ratio far too low to contain a sufficient margin of safety. In addition, the draft does not indicate the percent at which the discount rate was calculated.

Response: Project economics are updated annually until construction is completed to insure that investments are justified. The discount rate used in economic analysis was, in accordance with current policy, 3 1/4 percent.

Comment: Until the creation of new deltas occurs at a sufficient rate to offset the annual loss of coastal marsh, we are opposed to the utilization of additional marsh and swampland for virtually any purpose other than exploitation of natural resources or recreation.

Response: The problem of land loss or more accurately-- progressive net conversion of marshland to water bottoms is recognized. However, we do not agree the problem is of sufficient magnitude to warrant the type of moratorium suggested.

Comment: We are opposed to any increased salinity or turbidity in Bayou Penchant which is included in Louisiana's Natural and Scenic River System.

Response: There will be no increase in salinity in Bayou Penchant. There will be turbidity of short duration associated with dredging during construction and maintenance which will have no significant influence on that stream.

Comment: The draft statement fails to identify alternatives to the proposed action, limiting the focus of the inquiry to a few alternative routes.

Response: The alternatives considered represent the entire range of practicable possibilities.

(20) LOUISIANA HISTORICAL PRESERVATION AND CULTURAL COMMISSION.

No comment received.

(21) ASSUMPTION PARISH POLICE JURY.

No comments received.

(22) ST. MARY PARISH POLICE JURY.

No comments received.

(23) TERREBONNE PARISH POLICE JURY.

No comments received.

(24) ATCHAFALAYA BASIN LEVEE DISTRICT.

No comments received.

(25) ECOLOGY CENTER OF LOUISIANA, INC.

No comments received.

(26) NATIONAL SIERRA CLUB.

No comments received.

(27) ACADIAN SIERRA CLUB.

No comments received.

(28) SIERRA CLUB, DELTA CHAPTER. (Incorporating comments of Baton Rouge Sierra Club.)

Comment: The justification of this project seems to be totally based on economic and industrial development. Yet, the benefit-cost ratio given in the impact statement was only 1.2 to 1. What economic figures were used in the development of this benefit-cost ratio? Would it not be better to evaluate this project on an Energy Unit System as is being used by such an ecologist as Howard Odum rather than a dollar system?

Response: With reference to the Energy Unit System, none of the marsh evaluation systems such as this one has progressed to the point of general acceptance. The environmental statement, as defined by the National Environmental Policy Act (NEPA) and in the growing mass of jurisprudence interpreting that Act is a vehicle for disclosing, in physical terms, all information concerning proposed actions and their attendant consequences. The intricacies of the benefit/cost analyses would, if included in the statement, contribute nothing to achieving the purpose for which the statement is prepared; i.e., to establish the background of relevant information upon which the agency decided to act and to further establish that the background was sufficiently comprehensive to support the decision made. The simple inclusion of the benefit/cost ratio is sufficient for this - the details of the analyses upon which the economic stance of any proposal is based are included in other planning documents which are matters of public record.

Comment: The statement did not show the amount of industrial expansion or the need for this as an appropriate use of this important area. Could industry be located elsewhere without causing the loss of 7,000 acres of valuable coastal marsh?

Response: Only that reach of spoil north of the GIWW would be readily available for possible industrial expansion. This type of expansion would possibly occur with or without the project's spoil disposal. To our knowledge, there are no drier, safer areas for industrial expansion in the vicinity of Morgan City with adequate water frontage. This project will not induce added industrial development other than in areas now set aside or slated for development.

Comment: The total basic justifications for this project seem to be highly questionable. Both need and economic base

were not demonstrated. They should be so demonstrated if this is the basis for this project.

Response: The environmental statement, as defined by the National Environmental Policy Act (NEPA) and in the growing mass of jurisprudence interpreting that Act, is a vehicle for disclosing, in physical terms, all information concerning proposed actions and their attendant consequences. The intracacies of the benefit/cost analyses would, if included in the statement, contribute nothing to achieving the purpose for which the statement is prepared; i.e., to establish the background of relevant information upon which the agency decided to act and to further establish that the background was sufficiently comprehensive to support the decision made. The simple inclusion of the benefit/cost ratio is sufficient for this - the details of the analyses upon which the economic stance of any proposal is based are included in other planning documents which are matters of public record.

Comment: The fact that the last and only public meeting was held over 7 years ago leads one to question this project.

Response: Public meetings are held periodically for the purpose of getting updated information on public interest prior to construction of a project. The last meeting for this project was in Morgan City, Louisiana, on 18 July 1972.

Comment: The few alternatives given are inadequately discussed and allow no method of comparison. The "approved project" is the only alternative which has any benefit-cost data given.

Response: The section on alternatives has been expanded. In addition, a tabular comparison of alternatives has been provided.

Comment: What about locating the construction of oil rig equipment in another area where environmental impact would not be as severe?

Response: The oil rig equipment construction plants are already established on the upper reaches of this recommended project.

Comment: What about "delayed-time alternative" allowing a thorough investigation to see that this project fits in with overall plans of both the Louisiana Coastal Area and the Atchafalaya Basin?

Response: It is impossible to predict when "overall" plans for both the coastal area and the Atchafalaya Basin will be available. In the interim, it is considered desirable to proceed with duly authorized and funded projects that have been determined to be in the best public interest based on analyses of engineering, social, economic, and environmental considerations.

Comment: The statement gives insufficient information as to this project's effect on Bayou Penchant which is in the Louisiana Scenic River System. Any operation that changes the bayou is prohibited by State law.

Response: The only effect of the project on Bayou Penchant will be to induce slight turbidity, during construction and maintenance, in the reach near Bayou Chene. Such effect will be intermittent and temporary.

Comment: Projects that are considered on a "one-at-a-time basis" can be highly damaging to the overall environment. The impact statement should show the overall picture. What is the total effect of all the projects along the coast and the basin? It is necessary to place this project in the context of both proper coastal zone management and goals that will be established by the Atchafalaya Cooperative Environmental Study.

Response: The comment presumes that a master plan inclusive of proposed action by Federal, State, and local entities, and private groups exists, when, in fact, it does not. In the absence of such a plan, preparation of "regional" environmental statements - whatever the theoretical benefits thereof - would, in today's planning milieu, involve insurmountable practical difficulties. The preparation of statements on individual actions is a workable approach, which will yield adequate results provided that all significant interactions between individual proposals are identified and the corresponding impacts, whether direct or indirect, are described. In our view, this has been accomplished in this statement.

Comment: Until a more comprehensive study and approach is undertaken by the Corps of Engineers, the Delta Chapter of the Sierra Club must be opposed to such activities as the Atchafalaya River and Bayous Chene, Boeuf, and Black project.

(29) BATON ROUGE SIERRA CLUB.

Comments incorporated with New Orleans Sierra Club.

(30) NATIONAL SIERRA SOCIETY.

No comments received.

(31) NATIONAL AUDUBON SOCIETY, SOUTHWEST REGIONAL REPRESENTATIVE.

No comments received.

(32) ORLEANS AUDUBON SOCIETY.

Comment: The only justification for this project is the fact that the proposed channelization will better accommodate the new and larger styles of drilling rig enroute to the gulf. Other cities where the rigs are presently being built would be deprived of that industry in favor of Morgan City, New Orleans, which this Corps District is also supposed to serve would be among the most prominent losers, a "cost" which almost certainly has

not been included in the benefit-cost ratio. The Corps of Engineers should not function in the coastal marshes solely as the contractor and service agency for private industry, especially when the proposed construction is not even remotely essential to the survival or well-being of that industry and the people dependent on it. It is unfortunate that this scheme should even be contemplated, since its sole purpose is to add to the convenience, not the real needs of an industry which will continue to flourish in the gulf without this additional benefit.

Response: All benefits claimed in this navigation project accrue to the national account (contribute to the Gross National Product growth). All benefits arising from reduced transportation costs will ultimately be passed on to the consumer in the form of lower prices. It should be observed that the marine construction activity in the area will be the same both with and without the project, hence no other region will be deprived as a result of the project.

Comment: This is an alternative which should be considered. A floating assembly dock could be located below the present channel at industry expense, and the new super rigs could be transported to it in two or three segments from construction facilities in the Morgan City area. That is, if the private parties and corporations concerned deemed it practical to use Morgan City as a construction site.

Response: The cost of a floating assembly dock and the logistics involved would be prohibitive if indeed the scheme were practical.

Comment: It would not be appropriate for the Corps to undertake a new project of this magnitude, when it is so manifestly nonurgent, while the Atchafalaya Basin Cooperative Study is underway. It would undermine the Corps own praiseworthy intentions if, at the very beginning of this cooperative effort, it should undertake this unessential and environmentally harmful project.

Response: No channel enlargement provided for by this project is to be within any part of the Atchafalaya Basin (the Atchafalaya Basin being defined here as the inland area within the east and west floodway levees and above the Atchafalaya Bay).

Comment: The 7,000 acres of proposed spoil bank are referred to in the report as being capable of revegetation and the overall impression offered by the report is that there could not be much lasting environmental damage. The report mentions that fully one-half of these spoil banks will be subjected to periodic deposits from maintenance dredging. The actual marsh removed more or less

permanently from its present use is not 350 acres (the amount needed for the channel itself) but nearly 4,000 acres.

Response: Concur that revegetation of the 4,000 acres will not be as productive as the original type.

Comment: The spoil area not needed for maintenance would be utilized to a great extent by industry. If industry were to locate on these spoil banks in an area notorious for its vulnerability to hurricanes, it would, in effect, enlarge the area in need of future hurricane protection.

Response: Only that reach of spoil north of the GIWW would be readily available for possible industrial expansion. This type of expansion would possibly occur with or without the project's spoil disposal. To our knowledge, there are no drier, safer areas for industrial expansion in the vicinity of Morgan City with adequate water frontage. Elevated areas will most likely develop along the enlarged channel. This will result in more roads, expansion into existing marsh and solid/liquid waste disposal problems.

Comment: The statement does not consider pollution from this anticipated industrial sprawl on spoil bank areas.

Response: See prior comment.

Comment: It seems that no attention is given to the extent that the proposed spoil banks might permanently cut off the flow of fresh water from the present channel to the adjoining marshes.

Response: The flow of fresh water into the marshes will be restricted in all areas where excavated material is placed, but no significant watercourse will be intercepted.

Comment: For all of the reasons above, we strongly recommend that the Corps abandon this project which is manifestly unessential, which is wasteful of taxpayer monies, and which is destructive to the coastal environment.

(33) EVANGELINE ECONOMIC DEVELOPMENT DISTRICT.

No comments received.

(34) GULF INTRACOASTAL CANAL ASSOCIATION.

No comments received.

(35) AMERICAN WATERWAYS OPERATORS.

No comments received.

(36) GREATER ATCHAFALAYA BASIN COUNCIL.

No comments received.

(37) ACADIAN DISTRICT CLEARINGHOUSE.

No comments received.

(38) TECHE DISTRICT CLEARINGHOUSE.

No comments received.

c. Citizen groups. The draft environmental statement was furnished to over 105 environmental or conservation-type groups and/or individuals representing such groups. Five responses were received as a result of this coordination. These responses are summarized below and copies of the replies are attached.

(1) SCHOOL OF ENVIRONMENTAL DESIGN, LOUISIANA STATE UNIVERSITY, BATON ROUGE, LOUISIANA.

Comment: The suggested improvement should be reconsidered. The proposed development appears to be planned without relationship to the total coastal studies plan or the Atchafalaya study.

Response: Full consideration has been given to the environmental, social, and economic aspects of this project.

Comment: There seems to be a presumption that industrialization will occur in the swamp areas surrounding this project. If this is an anticipated secondary impact of the proposed improvement, it could be most detrimental to the general environment and ecology of the area. To encourage industrial development in the sensitive swamp areas certainly appears to be contrary to the recommendations contained in the National Estuary Study, prepared by the U.S. Department of the Interior, Fish and Wildlife Service.

Response: Only that reach of spoil north of the GIWW would be readily available for possible industrial expansion. This type of expansion would probably occur with or without the project's spoil disposal. Elevated areas will most likely develop along the enlarged channel.

Comment: All of the proposals in the coastal strip should be held in abeyance until a plan has been prepared for coastal zone land use.

Response: An overall plan for coastal land use in Louisiana does not currently exist, and it is not known when such a plan will be available or what provisions will be made for its implementation. In the absence of an overall plan, the Corps of Engineers considers it feasible and desirable to proceed with projects that are determined to be in the best total public interest. Such a determination has been made for this project.

Comment: Spoil could be disposed on selected sites so that it does not occupy as much surface areas as is indicated on this proposal. The spoil could provide topographic relief and perhaps be utilized for recreation purposes and possible overlook sites.

Response: Dikes for retaining dredged materials are to be built of weak soils. The dikes were designed with a maximum safe height in order that the area required for retaining dredged material would be as small as possible.

(2) CLIFFORD M. DANBY, PRIVATE CITIZEN.

Comment: The environmental statement does not provide sufficient information on costs and benefits to support the cited ratio of 1.2 to 1. It is not entirely clear why additional construction and servicing facilities are needed for large, offshore drilling rigs? What is the demand for this? What economic impact will this have on the Mobile, Alabama; New Orleans, Louisiana; and Orange, Texas; locations? Will this project add to unemployment at those facilities?

Response: The environmental statement, as defined by the National Environmental Policy Act (NEPA) and in the growing mass of jurisprudence interpreting that act is a vehicle for disclosing, in physical terms, all information concerning proposed actions and their attendant consequences. The intricacies of the benefit/cost analyses would, if included in the statement, contribute nothing to achieving the purpose for which the statement is prepared; i.e., to establish the background of relevant information upon which the agency decided to act and to further establish that the background was sufficiently comprehensive to support the decision made. The simple inclusion of the benefit/cost ratio is sufficient for this - the details of the analyses upon which the economic stance of any proposal is based are included in other planning documents which are matters of public record. The marine construction activities which will be served by the project are operating now and continue to operate in the absence of the project. They would, however, operate less efficiently, in that the larger rigs must be constructed in sections and transported elsewhere for assembly and outfitting. Marine construction activity in the project area will be at the same level both with and without the project, hence no other region will be deprived as a result of the project.

Comment: What is the economic impact to commercial fisheries if saltwater intrusion seriously affects fishery resources?

Response: No saltwater intrusion will occur in the project area.

Comment: Was consideration given to following the GIWW westward to the Lower Atchafalaya River and thence along the river to the gulf?

Response: Consideration was given to following the GIWW westward to the Atchafalaya River. The larger lock which would be required in the GIWW under this alternative rendered its cost prohibitively high.

Comment: Another alternative west of the proposed project but generally parallel to it could have been additionally explored.

Response: The alternative west of the proposed project (west of Lower Atchafalaya River) was not considered seriously since existing industry capable of incurring project benefits are not located in that area.

Comment: What will be the extent of saltwater encroachment, especially in Bayou Penchant? How much will salinity increase in Bayou Penchant? At what level will salinity become dangerous to freshwater fish, wildlife, and vegetation? Will a dangerous level be reached as a result of this project?

Response: No saltwater intrusion will result from construction of this project. No salinity increase will occur in Bayou Penchant.

Comment: Has consideration been given to installing weirs to protect freshwater areas from saltwater intrusion, especially Bayou Penchant, so as to preserve freshwater life systems?

Response: Since no saltwater intrusion will occur in the project area, there is no need for installing weirs. A structure at the confluence of Bayou Penchant and Bayou Chene would destroy the natural attractiveness of the waterway.

Comment: The statement observes that salinity-caused changes will be "short-term" and will "soon" be neutralized. The indicated time span is 20 years for these temporary changes at which time the buildup of the Atchafalaya River delta is expected to prevent saltwater intrusion. It is not clear how this would be so as the proposed channel will still be there and saltwater flow into it will not be restricted.

Response: No salinity increases will occur. There is no appreciable saltwater intrusion into the existing Atchafalaya River channel. As the channel mouth moves through the Atchafalaya Bay, the entrance into the river will be farther away from the Bayous Chene, Boeuf, and Black project.

Comment: A 20-year change in the marsh environment could cause serious and permanent damage to fish and wildlife systems. Since fishery resources are of high value and of major importance to the economy of this area, has the economic impact of this been considered? What measures are planned to protect against loss of income in this area?

Response: Fishery resources will be deleteriously affected by this project and the economic impact of such losses has been included in calculating the benefit/cost ratio given herein. No measures are planned for mitigating these losses.

Comment: Do project plans include replanting of spoil areas (especially maintenance spoil areas) so that vegetative regrowth will occur as soon as possible? Why not place spoil only on the west side of the channel, thereby preserving natural state of the marsh east of the project, particularly around Bayou Penchant. This would lessen the attractiveness of the area for industrial development.

Response: Project plans do not include replanting spoil areas. Natural seeding and subsequent vegetative cover are expected to occur after spoil placement. Due to the limiting height of spoil dikes and due to a limited distance that hydraulic spoil can be economically pumped, it would probably be necessary to place some spoil east of the Bayou Chene-Avoca Island Cutoff channel. It is questionable whether the east side is more valuable than the west side. Spoil will be held a minimum of 1,000 feet from the bank of Bayou Penchant. It is not anticipated that any industrialization which might occur south of the GIWW would be the same both with or without this project.

Comment: Will placing spoil in the Atchafalaya Bay and Gulf of Mexico increase sedimentation buildup and, thus, further lessen the value of fishery resources?

Response: Placing spoil in Atchafalaya Bay and the gulf along the project channel should not increase the rate of sedimentation buildup.

Comment: Relative to project contractors, what recourse is planned should they pollute the area? For example, are performance bonds for this specific objective required?

Response: Contractors are bound by contract not to pollute the water and are responsible to investigate and comply with all applicable laws concerning pollution. A performance bond is required to insure compliance with the contract provisions.

(3) PHYLLIS P. PEARSON, PRIVATE CITIZEN.

Comment: The salinity of the water would be increased, destroying it for many freshwater fish; the turbidity of the water would increase, causing changes in the spawning cycle of many of its inhabitants and death to many others; increased water flow would also affect the temperature of the water; vegetation would be destroyed all along the route; new industry would dump its effluents into the water; oil spillage would occur.

Response: There will be no increase in salinity associated with the project. Losses to the fishery resource have been accounted for in the project economics.

Comment: Cost of the maintenance dredging is not given in the draft environmental statement.

Response: An updated cost analysis from the survey report to July 1972 price levels indicates that the annual charge for maintenance dredging and maintaining and replacing aids to navigation would be about \$1.3 million.

Comment: How did the cost of the project rise from \$14,840,000 in 1971 to \$16,690,000 in 1972?

Response: Project first costs increased due to higher price levels, i.e., inflation.

Comment: You write that the environmental ill effects caused by your project would be short-termed and that within 2-4 years things would return to "normal." Where are all the swamp critters going to come from to repopulate the area? You will have managed to kill off many of them and possibly mutated others by the temperature, salinity, and turbidity changes to the water and the destruction of vegetation.

Response: The impacts on the wildlife and fisheries resources are described in section 3 of this statement.

Comment: There were several drastic discrepancies between the public announcement leaflet and the draft statement.

Response: At regular intervals, information on each project is updated. This statement now contains the most current data available.

(4) B. E. M. SKERRETT, III, PRIVATE CITIZEN.

Comment: Will the effluent from the hydraulic dredging operation enter Bayou Penchant and travel a sufficient distance to damage Lake Penchant and other clear lakes in its vicinity?

Response: No damages to this system are anticipated.

Comment: Lake Penchant is described in the draft statement as being very shallow with average depths of four feet or less and that consequently they are generally turbid. I believe Lake Penchant to be a clear lake.

Response: Concur. The statement has been revised.

Comment: I would be interested in knowing what factors were involved in calculating the 1.2 to 1 benefit-cost ratio.

Response: The environmental statement, as defined by the National Environmental Policy Act (NEPA) and in the growing manner of jurisprudence interpreting that act, is a vehicle for disclosing in physical terms, all information concerning proposed actions and their attendant consequences. The intricacies of the benefit/cost analyses would, if included in the statement, contribute nothing to achieving the purpose for which the statement is prepared; i.e., to establish the background of relevant information upon which the agency decided to act and to further establish that the background was sufficiently comprehensive to support the decision made. The simple inclusion of the benefit/cost is sufficient for this - the details of the analyses upon which the ratio economic stance of any proposal is based are included in other planning documents which are matters of public record.

The following persons, organizations, and agencies requested statements but did not comment:

Joseph W. Jacob, Jr.
Department of Marine Sciences
Louisiana State University

Bennie F. Maddox
Coastal Engineering Research
Center
Washington, D. C.

Robert L. Allen
Breaux Bridge, Louisiana

E. L. Arnold, Jr.
U. S. Department of Commerce
National Marine Fisheries Service

David C. Arnoldi
Louisiana State University

Mrs. Laurent
Port Allen, Louisiana

Charlie Auridrsch
Little Caillou Elementary School
Chauvin, Louisiana

Louis Duchs
Barnard and Burk, Inc.
Engineers and Constructors
Baton Rouge, Louisiana

Mrs. Ann W. Rudolph
Ecological Information Analysis
Center
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Carl V. Berthelot
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Hugh C. Brown
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Patterson, Louisiana

Bureau of Land Management
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Mrs. William Burt
League of Women Voters of
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Arthur Crowe
Department of Marine Science
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Dr. John Green
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Miss Edmonde Jaspers
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Walter L. Johnson
The Daily Review
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Frank L. Keller
Tulane University

Soon T. Kim
Louisiana State University

Bjorn Kjerfve
Louisiana State University

Robin J. Kuckyr
Baton Rouge, Louisiana

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Morgan City Public Library
Morgan City, Louisiana

Central Louisiana Electric
Company
Lafayette, Louisiana

Dr. Eugene C. McCann
Economic and Industrial Research,
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Miss Judith A. Monte
Louisiana State University

S. J. Morell
City of Morgan City
Morgan City, Louisiana

David B. Graf
Morgan City Harbor and Terminal
District
Morgan City, Louisiana

Waldemar S. Nelson
Waldemar S. Nelson and Company
New Orleans, Louisiana

E. F. Nielsen
Kaiser Engineers
Oakland, California

Thomas Patin
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H. W. Wedaa
Northrop Corporation
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Robert T. Wilson
Baton Rouge, Louisiana

H. C. Wurzlow
Wurzlow Mineral and Realty
Corporation
Houma, Louisiana

ATCHAFALAYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

APPENDIX A

A LIST OF THE PLANTS
MENTIONED IN THIS STATEMENT

The plants are listed alphabetically by the common name followed by the scientific name.

Alligatorweed	Common cattail
<i>Alternanthera philoxeroides</i>	<i>Typha latifolia</i>
American elm	Common ragweed
<i>Ulmus americana</i>	<i>Ambrosia artemisiifolia</i>
Arrowhead	Coontail
<i>Sagittaria falcata</i>	<i>Ceratophyllum demersum</i>
Baldcypress	Cottonwood
<i>Taxodium distichum</i>	<i>Populus deltoides</i>
Bay	Deciduous holly
<i>Persea palustris</i>	<i>Ilex decidua</i>
Bermuda grass	Deer pea
<i>Cynodon dactylon</i>	<i>Vigna luteola</i>
Blackberry	Dewberry
<i>Rubus louisianus</i>	<i>Rubus trivialis</i>
Black rush	Drummond red maple
<i>Juncus roemerianus</i>	<i>Acer drummondii</i>
Black willow	Duckweed
<i>Salix nigra</i>	<i>Lemna minor</i>
Buttonbush	Eastern baccharis
<i>Cephaelanthus occidentalis</i>	<i>Baccharis halimifolia</i>
Cocklebur	Elderberry
<i>Xanthium strumarium</i>	<i>Sambucus canadensis</i>
Coco	Elephant's ear
<i>Scirpus robustus</i>	<i>Colocasia antiquorum</i>

Frogbit	Naiad
<i>Limnobium spongia</i>	<i>Najas quadalupensis</i>
Giant cutgrass	Nuttall oak
<i>Zizaniopsis miliacea</i>	<i>Quercus nuttallii</i>
Glasswort	Oystergrass
<i>Salicornia bigelovii</i>	<i>Spartina alternifolia</i>
Goldenrod	Palmetto
<i>Solidago altissima</i>	<i>Sabal minor</i>
Great bulrush	Peppervine
<i>Scirpus validus</i>	<i>Ampelopsis arborea</i>
Hackberry	Persimmon
<i>Celtis laevigata</i>	<i>Diospyros virginiana</i>
Honey locust	Pickeralweed
<i>Gleditsia tricanthos</i>	<i>Pontederia cordata</i>
Johnson grass	Pigweed
<i>Sorghum halapense</i>	<i>Amaranthus spinosus</i>
Live oak	Poison ivy
<i>Quercus virginiana</i>	<i>Rhus radicans</i>
Lizard's tail	Pumpkin ash
<i>Saururus cernuus</i>	<i>Fraxinus tomentosa</i>
Maidencane	Rattan vine
<i>Panicum hemitomon</i>	<i>Berchemia scandens</i>
Marsh elder	Rattlebox
<i>Iva frutescens</i>	<i>Daubentonia texana</i>
Marsh mallow	Rose mallow
<i>Kosteletzkyia virginica</i>	<i>Hibiscus lasiocarpus</i>
Morning glory	Roughleaf dogwood
<i>Ipomoea sagittata</i>	<i>Cornus drummondii</i>
Mosquito fern	Rush
<i>Azolla caroliniana</i>	<i>Juncus</i> sp.
Muscadine	Saltgrass
<i>Vitis rotundifolia</i>	<i>Distichlis spicata</i>

Sawbriar <i>Smilax bona-nox</i>	Tupelogum <i>Nyssa aquatica</i>
Sedge <i>Cyperus</i> sp.	Vervain <i>Verbena bonariensis</i>
Sensitive plant <i>Mimosa strigillosa</i>	Water ash <i>Fraxinus caroliniana</i>
Smartweed <i>Polygonum punctatum</i>	Water hyacinth <i>Eichornia crassipes</i>
Spanish moss <i>Tillandsia usneoides</i>	Water lettuce <i>Pistia stratiotes</i>
Spiny thistle <i>Cirsium horridulum</i>	Waterlily <i>Nymphaea</i> sp.
Swamp lily <i>Crinum americanum</i>	Watermillet <i>Myriophyllum spicatum</i>
Sweetgum <i>Liquidambar styraciflua</i>	Wax myrtle <i>Myrica cerifera</i>
Three-cornered grass <i>Scirpus olneyi</i>	Wild grape <i>Vitis</i> sp.
Trumpet creeper <i>Campsis radicans</i>	Wiregrass <i>Spartina patens</i>

ATCHAFALAYA RIVER AND BAYOUS
CHENE, BOEUF, AND BLACK, LOUISIANA

APPENDIX B

A LIST OF THE ANIMALS
MENTIONED IN THIS STATEMENT

The animals are listed alphabetically by the common name followed by the scientific name. The animals recorded are known to inhabit the project area on a resident or migratory basis.

CRUSTACEANS

Blue crab
Callinectes sapidus

Red swamp crayfish
Procambarus clarkii

Brown shrimp
Penaeus aztecus

White shrimp
Penaeus setiferus

MOLLUSCS

Brackish water clam
Rangia cuneata

Salt marsh snail
Melampus bidentatus

AMPHIBIANS

Leopard frog
Rana pipiens

Bullfrog
Rana catesbeiana

REPTILES

American alligator
Alligator mississippiensis

Eastern cottonmouth
Agkistrodon piscivorus piscivorus

FISHES

Atlantic croaker
Micropogon undulatus

Blue catfish
Ictalurus furcatus

Black drum
Pogonias cromis

Bluegill
Lepomis macrochirus

Buffalo <i>Ictalurus bubalus</i>	Mullet <i>Mugil</i> sp.
Channel catfish <i>Ictalurus punctatus</i>	Red drum <i>Scianenops ocellata</i>
Crappie (sacalait) <i>Pomoxis</i> sp.	Sand seatrout <i>Cynoscion arenarius</i>
Flathead catfish <i>Pylodictis olivaris</i>	Sea catfish <i>Arius felis</i>
Flounder <i>Paralichthys lethostigma</i>	Shad <i>Dorosoma</i> sp.
Fresh water drum (gou) <i>Apodinotus grunniens</i>	Sheepshead <i>Archosargus probatocephalus</i>
Gafftopsail catfish <i>Bagre marinus</i>	Spotted seatrout <i>Cynoscion arenarius</i>
Gar <i>Lepisosteus</i> sp.	Sun fish <i>Lepomis</i> sp.
Green sunfish <i>Lepomis cyanellus</i>	Warmouth bass <i>Lepomis gulosus</i>
Largemouth bass <i>Micropterus salmonoides</i>	Yellow bass <i>Morone mississippiensis</i>

BIRDS

American egret <i>Casmerodius albus</i>	Common snipe <i>Capella gallinago</i>
Blue goose <i>Chen caerulescens</i>	Gadwall widgeon <i>Anas strepera</i>
Blue-winged teal <i>Anas discors</i>	Great blue heron <i>Ardea herodias</i>
Canvasback <i>Aythya valisineria</i>	Green heron <i>Butorides virescens</i>
Cattle egret <i>Bubulcus ibis</i>	Green-winged teal <i>Anas carolinensis</i>

Lesser scaup <i>Aythya affinis</i>	Redhead <i>Aythya americana</i>
Louisiana heron <i>Hydranassa tricolor</i>	Shoveler <i>Spatula clypeata</i>
Mallard (french duck) <i>Anas platyrhynchos</i>	Snow goose <i>Chen hyperborea</i>
Mottled duck (summer duck) <i>Anas fulvigula</i>	Snowy egret <i>Loucophoyx thula</i>
Pintail <i>Anas acuta</i>	White ibis (bec-croche) <i>Eudocimus alba</i>
Purple gallinule <i>Porphyryla martinica</i>	Woodcock <i>Philohela minor</i>
Rails <i>Rallus</i> sp.	Wood duck <i>Aix sponsa</i>

MAMMALS

Cottontail rabbit <i>Sylvilagus floridanus</i>	Opossum <i>Didelphis virginiana</i>
Fox squirrel <i>Sciurus niger</i>	Otter <i>Lutra canadensis</i>
Grey squirrel <i>Sciurus carolinensis</i>	Raccoon <i>Procyon lotor</i>
Mink <i>Mustela vison</i>	Swamp rabbit <i>Sylvilagus aquaticus</i>
Muskrat <i>Ondatra zibethicus</i>	White-tailed deer <i>Odocoileus virginianus</i>
Nutria <i>Myocastor coypus</i>	



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

AUG 11 1972

Dear Colonel Hunt:

Your letter of February 14 requested our views on the draft environmental statement for the "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana."

The Department of Interior has strong reservations concerning the issuance of an environmental statement on the navigation improvement project for the Atchafalaya River and Bayous Chene, Boeuf, and Black at this time. While this project is not identified as a segment of the Atchafalaya Floodway project, it certainly would have a far-reaching impact on the entire basin. We hold that a much more meaningful assessment of the plan could be made after the pending comprehensive environmental study is completed.

We have serious doubts that sufficient consideration has been given to the trade offs involved in the proposed plan. For instance, we question the long-term impact of the destruction of 7,350 acres of marshland on the ecology of the area in relation to the benefits accruing to two industrial plants. While your environmental statement recognizes the physical losses of the natural habitat, it does not adequately appraise the impact of this loss. We do not believe that such an appraisal could be done at this time. The contemplated environmental study would provide a sound basis for such an assessment.

The draft statement describes the impact of the work on the environment in a very general way and as completely as possible in view of the present state of knowledge.

Specific comments concerning the statement follow:

Page 13, 3. The environmental impact of the proposed action.

In commenting on the draft environmental statement for this project, the Bureau of Sport Fisheries and Wildlife expressed concern over the salinity intrusion into Bayou Penchant. Bayou Penchant from Bayou Chene to its entrance into Lake Penchant has been designated by an act of the Louisiana legislature as a unit in the Natural and Scenic Rivers system. The draft environmental statement acknowledges that initial salinities will increase in Bayous Chene, Boeuf, and Penchant. Salinities will begin to decrease as Atchafalaya Bay becomes filled with sediment and the freshwater zone moves seaward. Vegetative changes will accompany the changes in salinities. We question the implication that these changes will not be drastic or involve a substantial area. The labyrinth of waterways and associated marshes that will be affected is extensive, and the effects on the Bayous are undetermined.

This section should be expanded to show the probable effect of spoil placement adjacent to Bayou Pechant, a Louisiana Natural and Scenic River, and state how much this effect will be reduced by not placing spoil within 1,000 feet of the bayou, as proposed. If the adverse impact of placing spoil 1,000 feet away from the bayou is still significant, then a discussion of spoil placement further away should be included under alternatives.

In view of the severe subsidence and erosion along the Louisiana coast, the effects that this project could have on continued subsidence and/or erosion should be discussed. This discussion should include the effect that spoil deposits will have on the westerly gulf currents.

The discussion should be expanded to show whether or not this project offers the opportunity to direct or influence the growth pattern of the delta now forming naturally in the Atchafalaya Bay.

Page 18, 4. Any adverse environmental effects which cannot be avoided should the proposal be implemented.

Several items of environmental significance have not been considered in this section. It appears probable that spoil deposits at the side of the channel in the vicinity of Atchafalaya Bay will influence delta formation, westerly water currents, and erosion of the gulf shoreline. These aspects should be discussed in the statement. Also, no mention is made that shoaling may obstruct the mouth of some tributaries. Further, there is no discussion of the possible effects the project will have on subsidence of the coastal area.

Page 23, 5. Alternatives to the proposed action.

We question the rationale behind the conclusion herein reached. The no project alternative is rejected "because the benefits accruing to the approved project would be foreclosed." If this philosophy is followed, the environmental appraisal system, ipso facto, becomes merely an exercise. The question now is whether or not the environmental costs are greater than the economic and technical benefits of the proposed action. This relates to our earlier question of whether the destruction of fish and wildlife and natural values for the benefit of a local industry is valid.

This proposed project will not adversely affect any existing or proposed units of the National Park system, nor any historic, natural, or environmental education sites eligible or considered potentially eligible for the National Landmark program.

The statement should discuss archeological and historical values and show that such values are either present or absent. If any such values are present, then the project effects upon these cultural environmental resources should be identified and discussed in terms of impacts, unavoidable adverse effects, alternatives, short-term versus long-term productivity, and irretrievable and irreversible commitments. An archeological survey of the project site may be needed to: (1) determine whether or not such values are present and, if so, their significance and extent; (2) provide a basis for an adequate evaluation for environmental statement needs; and (3) define any salvage program and costs needed to mitigate loss to the archeological-historical resource base.

On page 9, it is stated that the National Register of Historic Places 1969 does not list any areas within the project. The front cover shows that the draft environmental statement was prepared in January 1972. Since it is the responsibility of all Federal agencies to take cognizance of the properties included in the National Register, as amended and revised monthly in the Federal Register, compliance with Section 106 of the National Historic Preservation Act of 1966 (80 Stat. 915), and concern for historic resources in the preparation of an environmental statement should involve as recent a consultation of the National Register as is reasonably possible. We suggest that the final environmental statement reflect a consultation more recent than 1969.

The final statement should contain (1) a sentence indicating that the National Register of Historic Places has been consulted and that no National Register properties will be affected by the project, or (2) a listing of the properties to be affected, an analysis of the nature of the effects, and an account of steps taken to assure compliance with Section 106 of the National Historic Preservation Act of 1966 (80 Stat. 915) in accordance with procedures of the Advisory Council on Historic Preservation as they appear in the Federal Register, March 15, 1972.

The final statement should contain evidence of recent contact with the Historic Preservation Officer for the State of Louisiana (Chairman, Louisiana Historical and Cultural Commission, Old State Capitol, Baton Rouge, Louisiana 70802) and a copy of his comments concerning the effect of the undertaking upon any historical and archeological resources which may be in the process of nomination to the National Register of Historic Places.

In the case of properties under the control or jurisdiction of the United States Government, the statement should include a discussion of steps taken to comply with Section 2(b) of Executive Order 11593 of May 13, 1971, entitled "Protection and Enhancement of the Cultural Environment."

We appreciate this opportunity to comment on the draft.

Sincerely yours,

A handwritten signature in black ink, appearing to read "H. H. Lam".

Secretary of the Interior

Deputy Assistant

Colonel Richard L. Hunt
New Orleans District
Corps of Engineers
Department of the Army
P.O. Box 60267
New Orleans, Louisiana 70160



THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

April 12, 1972

Colonel Richard L. Hunt
District Engineers
U.S. Department of the Army,
Corps of Engineers
New Orleans, Louisiana 70160

Dear Colonel Hunt:

The draft environmental statement for the "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana," reference LMNED-PC, which accompanied your letter of February 14, 1972, has been received by the Department of Commerce for review and comment.

The Department of Commerce has reviewed the draft environmental statement and has the following comments for your consideration.

Our review of the statement on the proposed channelization of the Atchafalaya River and adjacent bayous, reveals that the impact on living marine and estuarine resources is not discussed. The project would have a substantial, adverse influence on sport and commercial fishery resources within and beyond the area designated for construction. Destruction of 700 acres of coastal strand for spoil area, plus an additional dredged area of 350 acres, would eliminate 7,350 acres of plant production for two to four years and perhaps longer. Furthermore, maintenance dredging would permanently reduce plant production in an estimated area of approximately 3,850 acres (3,500 for deposit of spoil and 350 acres of channel). An additional, undetermined amount of rooted and planktonic plant life would be destroyed by turbidity and berm erosion both during and following dredging operations.

Studies of plant production in other coastal areas indicate that an acre of marsh produces, annually, about 10 tons of dry organic material which is reduced to detritus by natural processes and becomes a potential source of food for marine organisms (Odum, 1961). At that rate, production of dry

organic material in the project area (7,350 acres) is on the order of 73,500 tons per year. By allowing for revegetation over one-half of the project area, as claimed in the statement, the permanent loss of dry organic material would still be on the order of 38,500 tons per year. As pointed out by Darnell (1967) detritus feeding organisms are among the most successful inhabitants of estuaries. Such organisms include or support important sport and commercial species that have been identified in the project area in large numbers - trout, drum, flounder, croaker, shrimp, crab, and oysters. Consequently, the project would not be conducive to the production of valuable marine animals at present levels.

We suggest that a similar discussion might be included in section 3., on page 16, and that reference to this kind of damage be made again in section 4, page 19. The following citations are included for your information:

Literature Cited

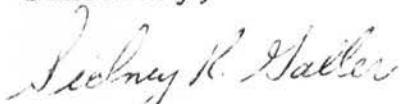
DARNELL, REZNEAT M. 1967. Organic Detritus in Relation to the Estuarine Ecosystem, p. 376-382. In George H. Lauff (Editor) *Estuaries*. Publ. 83, American Association for the Advancement of Science, Washington, D. C.

ODUM, EUGENE P. 1961. The Role of Tidal Marshes in Estuarine Production. Contribution 29, University of Georgia Marine Institute, Sapelo Island, Georgia.

We hope these comments will be of assistance to you in the preparation of the final statement.

I apologize for the delay in responding to your request.

Sincerely,



Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDER (oan)
Eighth Coast Guard District
Customhouse
New Orleans, La. 70130

3270
Ser 108
3 MAR 1972

From: Commander, Eighth Coast Guard District
To: District Engineer, U. S. Army Corps of Engineers, New Orleans District
Subj: Draft environmental statement for authorized project; review of
Ref: (a) CofE ltr LMNED-PC dtd 14 February 1972

1. A review was made of the Draft Environmental Statement for enlargement of existing navigation channels in Atchafalaya River, Bayous Chene, Boeuf and Black to 20 by 400 foot channel and extending through Atchafalaya Bay into the Gulf of Mexico to the minus 22 foot contour, mean low Gulf.
2. No objection is made to the proposed project as regards Section 102 (2) (c), Public Law 91-190.

L. J. Kelley
L. J. KELLEY
By direction



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

REGIONAL OFFICE

1114 COMMERCE STREET
DALLAS, TEXAS 75202

OFFICE OF
THE REGIONAL DIRECTOR

Our Reference: EI # 0272-098

Richard L. Hunt, Colonel, CE
District Engineer
Department of the Army
New Orleans District, Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 60160 Re: Atchafalaya River and Bayous
Chene, Bœuf, and Black,
Louisiana.

Dear Colonel Hunt:

Pursuant to your request, this office has completed a Departmental review of the Environmental Impact Statement in accordance with the provisions of Section 102(2)(C) of P.L. 91-190 and the Council on Environmental Quality Guidelines of April 23, 1971.

Environmental health program responsibilities and standards of the Department of Health, Education, and Welfare include those vested with the United States Public Health Service and the Facilities Engineering and Construction Agency. The U. S. Public Health Service has those programs of the Federal Food and Drug Administration (milk, food, interstate travel and shellfish sanitation) and of the Health Services and Mental Health Administration, which include the Bureau of Community Environmental Management (housing hygiene, injury control, recreational health, and insect and rodent control) and the National Institute of Occupational Safety and Health.

Attached are comments and reactions to the Environmental Statement made by departmental agencies concerned with environmental health aspects of the project.

We thank you for the opportunity to coordinate our mutual environmental interests as they relate to this project proposal.

Very truly yours,

Jerry D. Stephens
Jerry D. Stephens
Environmental Impact Coordinator

Enclosures

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Reaction Review and Comments on Environmental Impact Statement for Project
Proposal:

Draft Environmental Impact Statement Approved with Comments XXXX

Draft Environmental Impact Statement Not Approved, See Comments

Date: March 13, 1972

EI# 0272-098

Agency/Bureau: Facilities Engineering and Construction

Project Proposal: Atchafalaya River and Bayous, Chene, Boeuf, and Black, Louisiana.

Comments: Section 8. Coordination with others on page 28 states in paragraph "a. Public participation. The only public meeting on this project was held in Morgan City, Louisiana, on 20 November 1964 to determine the nature and extent of improvements desired by the project sponsors, and to attain the views of other interested parties. The notice of this public hearing was given wide distribution among Federal, State, and Local agencies and individuals." It would seem appropriate to hold another public hearing to obtain current public opinion since it has been over seven (7) years since the previous hearing was held.

ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1600 PATTERSON, SUITE 1100
DALLAS, TEXAS 75201

April 14, 1972

OFFICE OF THE
REGIONAL ADMINISTRATOR

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Re: 06-2-140

Dear Colonel Hunt:

We have reviewed the Draft Environmental Statement prepared by your office for the Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana, project. The proposed action is to enlarge the existing navigation channels of Bayous Boeuf and Black, starting at U. S. Highway 90 and proceeding downstream to their confluence with Bayou Chene, some 3.7 and 5.3 miles, respectively. The project then proceeds southward down Bayou Chene some 15 miles and enters the Atchafalaya River at about river mile 5.0. The project also includes an undetermined length of dredging across Atchafalaya Bay to reach the -20 foot contour Mean Low Gulf. The new channel will be 20 x 400 feet, except where existing development along Bayou Boeuf will reduce the width to about 300 feet.

In general, the statement covers many of the environmental impacts of the proposed action. However, we suggest that in developing the Final Environmental Statement, consideration be given to the following items:

1. The volume and type of material to be moved in constructing the new channel would be helpful in assessing possible effects on the existing marsh land. Is the nature of the dredge material such that it cannot be confined in a smaller area? This information would be helpful in clarifying the need for 7,000 acres of spoiling area.
2. Spoil placement--Will the spoil placement as proposed by this project permit normal water movement in the area adjacent to the project area? Further discussion of this subject would be helpful in assessing possible impacts of the project.

3. The statement mentions that local interests have accomplished surveys, soil borings, testing and basin mapping. However, no mention was made in the statement as to the results of the soil borings or testing as to any toxic substances in the dredge material. We believe the Final Statement would be strengthened by including the results of such analyses.

4. Salt water intrusion and channel enlargement—Can we assume that, until Atchafalaya Bay is closed by siltation (about 1990), the existing fresh water marsh in the project area of influence will become salt water marsh? Following the closure of Atchafalaya Bay by silt, will the area revert to a fresh water marsh, or will the area continue to be salt water marsh due to the maintained 20 x 400 foot channel out to the -20 foot elevation? We believe further discussion on this would strengthen the statement.

5. The discussion as to the relationship of this project to other Corps of Engineers projects and studies in the area would be helpful in assessing possible impacts of the project.

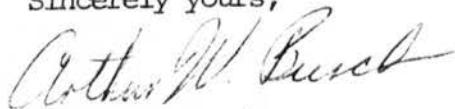
6. The use of diked areas for depositing the spoil in the inland areas of the project is to be commended. There may be some question on the general desirability of open-water dumping of dredged material as proposed in Atchafalaya Bay. However, with the current heavy silt load that is being deposited in the area by the Atchafalaya River, the effects of your project probably will not be significant.

7. The use of the spoil banks for location of industry would have secondary effects which were not discussed in this draft. Also, we suggest that consideration be given to reserving these spoil banks as islands for bird sanctuaries or rookeries.

8. We believe additional information is needed on the alternatives as presented in the statement. Any alternative to the proposed action should be evaluated equally to that of the proposed action. All alternatives should be fully described with both beneficial and adverse impacts explained, plus the inclusion of benefit/cost information. Such a presentation would be helpful in assessing possible impacts. One additional area that appears worthy of discussion as part of the "No Action" alternative is the building of the large oil rigs and related equipment at cities which have existing ports or channels capable of handling them.

We appreciate the opportunity to review the statement and would like to receive two copies of the Final Environmental Statement when it is available.

Sincerely yours,



Arthur W. Busch
Regional Administrator



STATE OF LOUISIANA
DEPARTMENT OF PUBLIC WORKS
BATON ROUGE, LA. 70804

Hu B. Myers
Acting
DIRECTOR

March 16, 1972

Colonel Richard L. Hunt
District Engineer
New Orleans Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Re: LMNED-PC
February 14, 1972

Dear Colonel Hunt:

The letter referred to above transmitted a draft of your proposed environmental impact statement on the "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana", for our review and comments.

This department has completed its review of the draft statement. We concur in general with the material presented and wish to compliment you on your realistic treatment and views of the anticipated impact resulting from the construction of this proposed project. There are several minor comments we would like to present which are noted as follows:

Page 13 and 19 - The vegetation now growing on designated spoil areas will not all be killed because the entire area will not necessarily be covered with sufficient spoil to kill the growth. Much of the spoil area is required as effluent ponding area to reduce sedimentation of return water from hydraulic dredging operations.

Page 14 - Since Bayou Boeuf has existing depths ranging from 12 - 18 feet deep it does not follow that dredging to a project depth of 20 feet will increase salinities by 50 percent. Neither does it necessarily increase salinities of Bayou Penchant since no dredging will be performed in that bayou.

We appreciate the opportunity to review and comment on your proposed impact statement and request your consideration of our remarks.

Sincerely yours,

Hu B. Myers
HU B. MYERS
ACTING DIRECTOR

/mal

Eng Dir

STATE OF LOUISIANA
STATE PARKS AND RECREATION COMMISSION
BUREAU OF OUTDOOR RECREATION

P. O. DRAWER 1111

BATON ROUGE, LOUISIANA 70821

FEBRUARY 21, 1972

Mr. RICHARD L. HUNT, DISTRICT ENGINEER
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. Box 60267
NEW ORLEANS, LOUISIANA 70160

RE: DRAFT ENVIRONMENTAL STATEMENT - ATCHAFALAYA RIVER AND
BAYOUS CHENE, BOEUF, AND BLACK, LOUISIANA

DEAR MR. HUNT:

THE ABOVE CAPTIONED PROJECT HAS BEEN RECEIVED AND REVIEWED BY
THIS AGENCY. WE WOULD LIKE TO OFFER THE FOLLOWING COMMENTS:

PAGE 14. "THE SALINITY IN BAYOU PENCHANT WILL ALSO BE INCREASED
TO AN UNDETERMINED EXTENT". SINCE BAYOU PENCHANT IS A DESIGN-
NATED SCENIC RIVER, WE FEEL THAT BOTH THE CHANGE AND THE EFFECTS
OF THE CHANGE IN SALINITY DESERVE FURTHER STUDY AND CONSIDERATION.

WE APPRECIATED THE CONSIDERATION GIVEN TO THE SCENIC RIVER,
BAYOU PENCHANT, IN THIS STATEMENT AND APPRECIATE THE OPPORTUNITY
TO REVIEW & COMMENT.

SINCERELY,

Lamar Gibson
LAMAR GIBSON

DIRECTOR-LIAISON

Gus Stacy III
GUS STACY III

RESEARCH STATISTICIAN

GS/PD

4
Loyd

Louisiana State



Department of Health

LOUISIANA STATE OFFICE BUILDING
P. O. BOX 60630

ANDREW HEDMEG, M.D., M.P.H.
STATE HEALTH OFFICER

New Orleans, La. 70160

March 30, 1972

Colonel Richard L. Hunt
District Engineer
Department of the Army
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Re: Environmental Statement
Atchafalaya River and
Bayous Chene, Boeuf,
and Black
Louisiana

Dear Sir:

We have gone over the environmental statement for the above captioned project submitted with your letter of February 14 and find no objection from a public health standpoint.

Very truly yours,

Charles E. Bishop Jr.

Charles E. Bishop, Jr., Head
Division of Engineering

CEB:lm

Eng'n Div.

2/25/72

LOUISIANA WILD LIFE AND FISHERIES COMMISSION
WILD LIFE AND FISHERIES BUILDING
400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130

March 1, 1972

Colonel Richard L. Hunt, C. E.
District Engineer
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, LA 70160

Dear Colonel Hunt:

Reference is made to your letter of February 14, 1972, and enclosed environmental statement concerning the authorized project "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana." We have reviewed this draft statement as requested and have the following comments or observations to present.

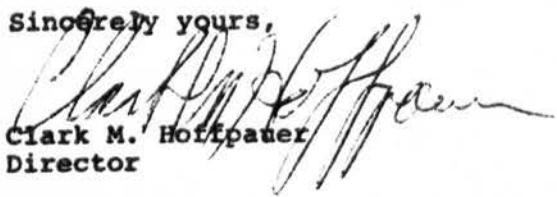
Generally the environmental impact statement is sufficiently detailed and covers the anticipated effects of the enlargement of the above named navigation channels. However, we feel that the considerations offered in our letter of September 17, 1971, to you in the form of a review of the report submitted by the Bureau of Sport Fisheries and Wildlife regarding this project should be contained in or appended to the environmental statement.

In addition, it is felt that some mention of anticipated further maintenance should be included in this project review in that continuing annual maintenance will constitute increase turbidities during and after this type of work. Recognizing this may be considered temporary but nevertheless will be identified with the project on a continuing basis as maintenance is required.

In reviewing this project we feel that our previous letter reflects our continuing position and present interest in this project.

We would appreciate any additional comments on this matter.

Sincerely yours,



Clark M. Hoffpauir
Director

MWS/cgl

cc: Oyster Division
Mr. Robert Murry

Engr. Div

WEX

N.E.L.

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

WILD LIFE AND FISHERIES BUILDING
400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130

September 17, 1971

Col. Richard L. Hunt
District Engineer
Department of the Army
New Orleans District, Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Col. Hunt:

This is in reply to a follow-up letter from Mr. Jerome C. Baehr of your staff requesting our comments relative to the Atchafalaya River, Bayous Chene, Boeuf, and Black, Louisiana Project. Details of this project were sent to us in May for our review. Apparently, this material was misplaced and no action was taken regarding our comments concerning fish and wildlife aspects.

Upon reviewing comments regarding fish and wildlife resources made by the Bureau of Sport Fisheries and Wildlife, we are in agreement with the general provisions and recommendations made in the Bureau's report. However, no mention was made of existing oyster leases which lie immediately west of Point au Fer. These leases could conceivably be damaged by any dredging activity in this area. If not directly by construction activities, substantial oyster mortalities could result from movement of spoil or dredge material onto these beds. In addition, any shoaling or spoil deposition in the area between Point au Fer Island and the southwestern-most marshes of Terrebonne Parish could alter water currents or general hydrological conditions and be damaging to oyster production in Four League Bay. Also, the enlarged channel could contribute to the increase in salinities in this general area and could contribute to a decline in oyster production in Four League Bay. With the widening and deepening of the approach channel across Atchafalaya Bay and subsequent enlargement of the Bayou Chene segment of the channel during periods of low inflow, saltwater intrusion

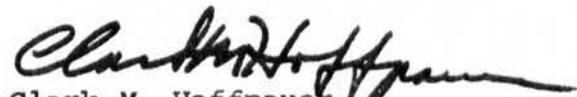
September 17, 1971

could result in increased salinities in the Intracoastal Waterway and adjacent swamps and alter present ecological conditions which would be damaging to fish and wildlife resources. Increased salinities in the vicinity of Four League Bay and farther to the east could be harmful to natural oyster reproduction and reduce this area's value as a seed oyster producing area.

Bay Junop, a state maintained seed oyster ground area, is dependent upon the freshwater from the Atchafalaya River that circulates through Four League Bay and Blue Hammock Bayou for sustained natural oyster production. Any changes in duration and amounts of Atchafalaya River water entering this system could have serious and long-term effects on seed oyster production. In the event damages, either direct or indirect, occur to existing oyster leases within or adjacent to the project area, it should be the responsibility of the project for any liabilities incurred. In addition, project sponsors should negotiate with individual oyster lessees in the event damages or damage claims arise. We further stipulate that all spoils should be confined or contained to the maximum degree possible to prevent its spilling onto any adjacent marshlands or any adjacent bayous, channels, or water bodies.

We appreciate the opportunity to review and submit comments relative to fish and wildlife resources within the project area. In the event there are any modifications or changes in the existing project, we would appreciate the opportunity to again review and offer comments to the Fish and Wildlife Service.

Sincerely,



Clark M. Hoffpauer
Director

CMH:vs

cc: Robert E. Murry
Oyster Division

JAN

LOUISIANA ADVISORY COMMISSION
on
COASTAL and MARINE RESOURCES

52-60 Law Center, LSU
Telephone 504 389-2254
Baton Rouge, La. 70803

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New Orleans

STAFF
J. Arthur Smith, III
Legal Associate

Paul H. Templet
Scientific Associate

March 30, 1972

Marc J. Hershman
Executive Director

Colonel Richard L. Hunt
District Engineer
Corps of Engineers
P. O. Box 60267
New Orleans, LA 70160

Dear Colonel Hunt:

I am writing to you concerning the draft environmental statement on the "Atchafalaya River and Bayous Chene, Boeuf and Black, Louisiana". The Commission of which I am Executive Director has been charged with the responsibility for studying Louisiana's "interest and role in the conservation and development of the resources of the coastal zone", and in recommending a coastal zone management plan to the Governor and Legislature defining coastal zone policy for the state. The law creating our Commission does not give us powers to regulate or issue permits regarding coastal zone projects. However, we are responsible for creating a framework in which those decisions can best be made. We have adopted a policy of putting all groups on notice that the recommendations of our plan, if adopted by the Governor and Legislature, may result in the alteration or modification of projects being planned or considered for the coastal zone of the state. In addition to this policy, we are actively seeking as much information as possible regarding all projects being pursued in the coastal area.

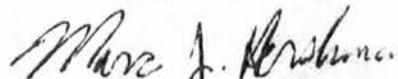
I believe that if our job is to be done properly there must be time for us to review all of these projects and integrate them into an overall coastal zone plan, which would consider total coastal values as well as the values sought by each individual project. Needless to say, if these projects continue at their current pace, significant portions of the marshlands could be permanently altered prior to the promulgation of our plan. September of 1973 is the date our plan will be ready.

Page 2
March 30, 1972

The Atchafalaya Floodway Project is being re-evaluated under the Environmental Impact Statement Procedures. The completion date for it is September, 1973, the same time as our Commission deadline. This suggests the possibility that many projects currently being planned, including the Atchafalaya River project to which this letter is addressed, could be integrated into our planning efforts so that some uniformity and cooperation can be achieved with regard to the major projects affecting the ecology of the coastal zone.

The implementation of a project such as the creation of this new channel without consideration of the attendant effects on the region of which it is a part would appear to be contrary to the provisions of NEPA and contrary of the spirit of Act 35 establishing our Commission. Since this project could easily affect the Atchafalaya Basin, perhaps the two studies should be joined in a comprehensive regional study project.

Sincerely yours,



Marc J. Hershman
Executive Director

MJH:mrd



Ellen Bryan Moore
REGISTER

State of Louisiana

STATE LAND OFFICE

BATON ROUGE

70804

February 23, 1972

New Orleans District, Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Attention: Col. Richard L. Hunt

Re: LMNED-PC
Atchafalaya River and Bayous
Chene, Boeuf, and Black

Gentlemen:

With reference to the above captioned project the State Land Office offers only the recommendation and request that utmost caution be exercised in disposal of spoil so as not to cause or create artificial sedimentation which might be construed by private property owners to be natural accretion.

It is our further assumption that aerial photographs as well as on-ground surveys where feasible will be available in the event of conflict of ownership to any of the areas affected by your proposal.

Very sincerely,

For the Register:

O. G. Poret
ORY G. PORET
DEPUTY REGISTER

OGP/mtf



Engr. Div.

For your information.

WER

100-101
D.A.C.A.

National Wildlife Federation

1412 Sixteenth Street, N.W., Washington, D.C. 20036

Phone: 202-483-1550

Rec'd - 30 Feb
↓

February 22, 1972

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of
Engineers
Department of the Army
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

We were surprised to receive a copy of a draft environmental statement entitled "Atchafalaya River and Bayous Chene, Boeuf and Black, Louisiana" prepared by your office. The proposal involves channelization in the lower Atchafalaya Basin which will, in the terms of the statement, destroy 350 acres of marshland and cover an additional 7000 acres with spoil. We are certain that in the posture of our cooperative efforts to study the Atchafalaya Basin you will want to reconsider the timing of this proposed action, and defer assessment of its environmental impact until our Basin study is completed.

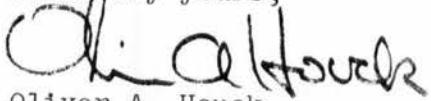
The National Wildlife Federation has expressed its concern from the outset that the Atchafalaya Basin be recognized as a single ecosystem, and that Corps activities therein be studied in relation to the ecosystem as a whole. See letter from Thomas L. Kimball to Lt. General F. J. Clarke, dated October 12, 1971, and Memorandum of meeting with Lt. General Clarke, dated November 4, 1971. This subject was foremost in our discussions in New Orleans on January 18, 1972 and February 1, 1972, in which the Corps agreed to undertake a study of the Atchafalaya Basin in its entirety, from above Old River to the Gulf. The Federation in turn agreed to support certain interim Corps activity in the Basin such as levee construction and channel maintenance which will have little adverse environmental impact, and we jointly agreed to postpone consideration of certain projects which could seriously affect the Basin, such as the Texas water diversion plan, until after the Atchafalaya environment had been assessed and the impact of Corps activities within the Basin evaluated.

Colonel Richard L. Hunt
February 22, 1972
Page Two

The proposal covered by the above-referenced draft unquestionably lies within our study area, and it unquestionably will have a large, adverse environmental impact. Further, it is supported by no priority considerations of public safety, as are levees and channel maintenance. Even in the absence of any understanding or joint effort with the Federation, it would simply make no sense to destroy part of something you are starting to study.

In sum, the timing of this draft statement merits serious reconsideration. The proposal is inconsistent with everything accomplished so far. We are confident you will agree that it is most reasonable to examine the impacts of projects such as this after the full ecosystem involved has been studied and the most environmentally compatible method of flood control developed.

Sincerely yours,


Oliver A. Houck
Counsel

OAH/s



Engr. Div.
For your information.

WER

National Wildlife Federation

1412 Sixteenth Street, N.W., Washington, D.C. 20036

Phone: 202-483-1550

Rec'd 5
22 Feb
↓
February 22, 1972

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of
Engineers
Department of the Army
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

We were surprised to receive a copy of a draft environmental statement entitled "Atchafalaya River and Bayous Chene, Boeuf and Black, Louisiana" prepared by your office. The proposal involves channelization in the lower Atchafalaya Basin which will, in the terms of the statement, destroy 350 acres of marshland and cover an additional 7000 acres with spoil. We are certain that in the posture of our cooperative efforts to study the Atchafalaya Basin you will want to reconsider the timing of this proposed action, and defer assessment of its environmental impact until our Basin study is completed.

The National Wildlife Federation has expressed its concern from the outset that the Atchafalaya Basin be recognized as a single ecosystem, and that Corps activities therein be studied in relation to the ecosystem as a whole. See letter from Thomas L. Kimball to Lt. General F. J. Clarke, dated October 12, 1971, and Memorandum of meeting with Lt. General Clarke, dated November 4, 1971. This subject was foremost in our discussions in New Orleans on January 18, 1972 and February 1, 1972, in which the Corps agreed to undertake a study of the Atchafalaya Basin in its entirety, from above Old River to the Gulf. The Federation in turn agreed to support certain interim Corps activity in the Basin such as levee construction and channel maintenance which will have little adverse environmental impact, and we jointly agreed to postpone consideration of certain projects which could seriously affect the Basin, such as the Texas water diversion plan, until after the Atchafalaya environment had been assessed and the impact of Corps activities within the Basin evaluated.



National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036

Phone: 202-483-1550

March 23, 1972

Colonel Richard L. Hunt
District Engineer
New Orleans District, Corps of Engineers
Department of the Army
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

The National Wildlife Federation submits the following observations with reference to the environmental statement "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana." We find the statement so inadequate in content and scope that meaningful comment is not possible. We recommend that a draft environmental statement containing adequate information be prepared and circulated for agency and public comment under the National Environmental Policy Act. In this statement the Corps should consider the project in the context of the ecosystem in which it lies and on-going projects and studies which directly affect it, and should include in the statement the environmental and engineering information developed in these projects and studies.

1. "Benefit/Cost" Analysis.

The draft statement affords an inadequate basis for comment in that it does not disclose any elements of the critical "benefit/cost" analysis which purports to justify the project. Without this information, the reviewer has no way of knowing what economic and environmental factors were considered in reaching the alleged 1.2:1 ratio, or, equally important, what weight was given to them.

The statement contains the assertion that "[t]he current benefit-cost ratio of the project, based on the 1 July 1971 cost-estimate (\$14,840,000) is 1.2 to 1." (Page 2) This is the one and only reference to the balancing process which is at the heart of the National Environmental Policy Act ("NEPA"), 42 U.S.C. §4321 et seq., and the Corps' water-project authority, 33 U.S.C. §701a. Because the Corps thus prevents a reviewer from seeing what items were included as benefits and what as costs, there is simply no place to begin.

Colonel Richard L. Hunt
March 23, 1972
Page Two

The Corps may have given proper consideration to any one element; or it may have ignored it altogether. The Corps may have discussed an item in the text, but ascribed a grossly inflated or deflated value to it in the benefit/cost analysis. Examples abound. We have no way of knowing what facilities for the construction and repair of large offshore drilling rigs and related marine equipment the Corps has in mind to benefit, or what the Corps figures the net gain will be to this enterprise. Likewise, we are given no clue to the Corps' evaluation of the potential commercial and recreational interests in the affected area, or how the Corps estimates they would be enhanced or diminished by the project. We do not know what discount rate was used in deriving the benefit/cost ratio, or whether future maintenance costs as well as present construction costs were included in it. In short, we have no idea what facts the Corps relied on or what conclusions were drawn about their relative values. Without this basic information, even agencies and citizens with considerable expertise and concern for these matters are prohibited from making the meaningful contribution to environmental analysis required by NEPA.

2. Alternatives.

The draft statement contains an inadequate discussion of alternatives. Certain rather apparent alternatives are not discussed at all. Other more limited alternatives are treated, but again without any benefit/cost information which would allow for comparison and comment by agencies and the public.

The most obvious alternative to building huge oil rigs on a small bayou and digging a big channel to float them out to the Gulf of Mexico is to build and float them elsewhere, where a channel is already large enough and the environmental impact less severe. New Orleans, Louisiana, and other Gulf Coast cities are logical choices. No consideration seems to have been given to this option. Equally important, no benefit/cost information is presented for review by anyone, including persons who might be interested in locating the enterprise in more logical areas which have already been industrialized and which already have sufficient access to the Gulf. This type of analysis and information is integral to any discussion of "no action" alternatives.

Other apparently unexplored alternatives include passage along the intercoastal waterway to Morgan City and out the Atchafalaya River, construction of the larger rigs at Morgan City, or consideration of means other than navigation for transporting the rigs from the proposed construction site.

Colonel Richard L. Hunt
March 23, 1972
Page Three

Further, the statement gives no basis for comparison of alternatives, no insight into the critical benefit/cost method of choice. Thus we find the assertion that "This alternative was not adopted because a higher benefit-cost ratio could be achieved by the approved channel . . ." (Page 20) This assertion is unsupported by any fact in the document. When there is no way to know the basis for Corps' conclusions, there is no way to comment.

3. Scope.

The draft statement affords an inadequate basis for comment in that it arbitrarily ignores the scope of the project's environmental impact and its relationship to other projects, state and federal policies, and the Atchafalaya Basin.

With regard to the scope of impact, the statement makes no mention of the effect of the channel on natural drainage, or of the entire project on industrialization in the area and related land use development: "Environmental changes will be confined to the immediate project area and are related mainly to this land requirement (spoil)." (Page 26) NEPA does not allow so cursory a dismissal of developments so inevitable and important.

Another striking omission is in the relationship of the project to state and federal laws and policies. With the single exception of a reference to a state law protecting Bayou Penchant (which is bisected by the project), the reviewer is at a loss to know what consideration was given to Louisiana's important coastal laws, policies and programs, or to such federal policies and laws as those contained in the Estuarine Areas Protection Act of 1968, the Federal Fish and Wildlife Act of 1956, the Land and Water Conservation Fund Act of 1965, and the pending National Coastal and Estuarine Zone Management Act of 1971. The reviewer is further precluded from seeing how compliance with or deviation from these laws and policies were quantified in arriving at the alleged 1.2:1 benefit/cost ratio for this project.

Most seriously, the project is treated as if it lay in a vacuum, unrelated to the Atchafalaya Basin ecosystem and to the Corps' major project affecting this ecosystem. Geographically, the project area lies at the base of the Atchafalaya Basin. Its future is determined largely by what happens in the Basin, and what the Basin brings to it. See statement pp. 4-6, 13, 19, 23, 24. Were the Basin's course certain, the project statement could accept the Basin's output as a given, and proceed to its conclusions.

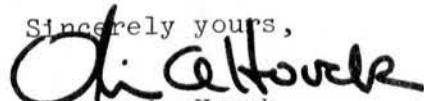
Colonel Richard L. Hunt
March 23, 1972
Page Four

But the Basin is not a given. The future of the Basin - its channel, its sediment, its output and its environment - depends on the pending Atchafalaya Basin flood control project which is now the subject of intensive NEPA review. The object of this NEPA review is to find a means, perhaps a new means, to engineer for flood control and maximize the Basin's environmental values. The National Wildlife Federation is participating in this study with the express understanding that environmentally harmful actions in the Basin, such as channelization, would be suspended.

In this context, it is appropriate to return to the proposal at hand which, in order to provide outlets for oil rigs, would channel and deposit spoil along approximately 30 miles of the lower Atchafalaya River and Atchafalaya Bay. First, the Corps pays small observance to its understanding with the Federation when it decides to channel in the name of "navigation" where it agreed to reconsider for "flood control." Second, the Corps violates the spirit and mandate of NEPA when it attempts to destroy piecemeal what it has conceded must be studied overall. Third, the Corps simply cannot issue a legally valid NEPA assessment of the environment or available alternatives in this project area until it determines the course of action in the major flood control project and its environmental impact on this area. The engineering methods arrived at in that study may well suggest an entirely different routing here, or the possibility of a single channel for both purposes. Just as important, the comprehensive environmental conclusions reached in that study could radically alter the rather tenuous 1.2:1 benefit/cost picture alleged in this statement. The statement is premature.

4. Conclusion.

The comments above are not directed to the merits of the proposed project. The statement says too little about the project for any such conclusions. We have addressed the statement's compliance with section 102(2)(C) of NEPA, and found it so inadequate that it denies the right of the Federation and others to make meaningful comments. This inadequacy cannot be remedied by issuing a final impact statement, for such a procedure would effectively deny the right of agencies and citizens to comment before the final environmental decisions are made. We recommend, therefore, that a draft environmental statement, containing adequate discussion in each deficient area noted above, be prepared and circulated when all relevant information is known.

Sincerely yours,

Oliver A. Houck
Counsel



National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036

*1. Capt King Apr
2. Eng Dir*

Phone: 202-483-1550

June 26, 1972

Colonel Richard L. Hunt
District Engineer
New Orleans District
Corps of Engineers
Department of the Army
P.O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

Reference the project, "Atchafalaya River and Bayous Chene, Boeuf and Black, Louisiana", I have today received copies of comments by agencies and other individuals as I requested. Thank you for acknowledging my request.

With regard to the statement itself, I would like to propose a procedure which would satisfy a number of the objections voiced in the Federation's comments and others. In essence we feel that the draft statement you circulated to us was deficient in that:

1. It contained inadequate quantification of fish and wildlife losses, industrial expansion and other environmental losses.

2. It did not relate these costs to the benefit/cost conclusions which the statement used to justify the project and to eliminate alternatives.

3. It did not consider other alternative courses of action which could accomplish the objective of getting large oil rigs to the Gulf. We do not quarrel with the objective. We do feel that to ignore other ways to accomplish the objective is unlawful.

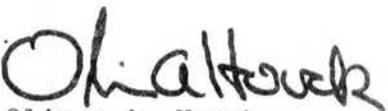
The Federation recommends strongly, therefore, that you circulate a revised draft statement covering these points for agency and public comment. Circulation of an adequate draft statement is important because we will not have a meaningful opportunity to comment otherwise.

National Wildlife Federation

Colonel Richard L. Hunt
June 26, 1972
Page Two

In closing, we emphasize that we have no intention or purpose to delay this project. We have every intention, however, to receive and comment on an adequate draft statement. We assume you have the necessary information available, and we urge you to expedite matters by making it available to us, agenceis and the public pursuant to NEPA.

Sincerely yours,


Oliver A. Houck
Counsel

cc: Mr. John T. Pegg
OAH/b



Louisiana Wildlife Federation, Inc.

P.O. Box 5552
Alexandria, La. 71301
March 25, 1972

Colonel Richard L. Hunt
District Engineer
Corps of Engineers
P. O. Box 60267
New Orleans, La. 70160

Dear Colonel Hunt:

After studying the draft environmental statement for the authorized Atchafalaya River and Bayous Chene, Boeuf and Black, Louisiana project my committee has these comments.

Page 24 of the draft states "The alternative of no action was not adopted because the benefits accruing to the approved project would be foreclosed."

We seriously doubt that this is a valid reason for rejecting the no action alternative. Any plan that reaches this stage will include some benefits, therefore using this factor alone the Corps must always reject the no action alternative. The choice should be based on whether or not the costs and damages outweigh the benefits.

In preparing its final environmental statement for the Gilham reservoir project the Tulsa district of the Corps of Engineers used the matrix analysis system of weighing these factors, and, while a far from perfect system, we recommend its use in preparing environmental statements.

Further, we believe the loss of 7,000 acres of swamp, marsh and water area due to project works should be accessed as a per cent of the total degradation of Louisiana's coastal marsh from Federal, state and private activities.

We also believe this project should be evaluated in terms of its affect, if any, on the entire Atchafalaya Basin ecosystem.

Finally, we believe the final statement should detail assurances that project works will in no way deter creation of a new delta in Atchafalaya Bay.

These remarks conclude our comments on the draft statement itself. We appreciate the objectivity and comprehensiveness of the statement, and based on the information contained therein we wish to make the following comments on the project.

We are disturbed by the lack of opportunity for public input on this project and particularly by the fact that the only public meeting held was eight years ago. We do not believe that this is in keeping with current Corps policy on public meetings and we recommend that additional meetings be scheduled.

We consider the benefit/cost ratio far too low to contain a sufficient margin of safety. In addition the draft does not indicate the per cent at which the discount rate was calculated.

Until the creation of new deltas occurs at a sufficient rate to offset the annual loss of coastal marsh we are opposed to the utilization of additional marsh and swamp land for virtually any purpose.

Lastly, we are opposed to any increased salinity or turbidity in Bayou Penchant which is included in Louisiana's Natural and Scenic River System.

Sincerely,



Richard W. Bryan, Jr.
Richard W. Bryan, Jr., Chairman
Water Control Projects Committee

Engr. Div.
A note from...RICHARD W. BRYAN, JR.
WES

March 25, 1972

Dear Colonel Hunt:

Please add to the next to last sentence in my letter of March 25 on the Atchafalaya river draft environmental statement the following phrase.

exploitation
"other than ~~utilization~~ of natural resources or recreation."

This sentence should read;

"Until the creation of new deltas occurs at a sufficient rate to offset the annual loss of coastal marsh we are opposed to the utilization of additional marsh and swamp land for virtually any purpose other than exploitation of natural resources or recreation."

Thank you.

Sincerely,

Richard W. Bryan Jr.
Richard W. Bryan, Jr.

*At
Mr. Captain
L. L. C. D. I.*

Delta Chapter Sierra Club
New Orleans & Baton Rouge
Sierra Club Groups
1068 East Lakeview Drive
Baton Rouge, Louisiana 70810
March 29, 1972

Colonel Richard L. Hunt
District Engineer
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana

RE: Draft Environmental Statement
Atchafalaya River and Bayous
Chene, Boeuf, and Black,
Louisiana

Dear Col. Hunt:

The comments that you requested from the Delta Chapter Sierra Club will be brief due to the lack of adequate base information supplied by the draft environmental impact statement for the above named project. This lack of information makes it difficult for us to make meaningful comments at this time. Also, we have been under the belief that it was the intent of the Corps of Engineers not to undertake any work except that which is necessary to protect human life in the Atchafalaya Basin until after the completion of the Atchafalaya Cooperative Environmental Study.

The justification of this project seems to be totally based on economic and industrial development. Yet, the benefit-cost ratio given in the impact statement was only 1.2 to 1. This is very low in comparison to other Corps projects and seems unjustifiable, especially since there will obviously be large adverse effects to the environment. What economic figures were used in the development of this benefit-cost ratio? Would it not be better to evaluate this project on an Energy Unit System as used by such an ecologist as Howard Odum rather than a dollar system? The statement did not show the amount of industrial expansion or the need for this as an appropriate use of this important area. Could industry be located elsewhere without causing the loss of 7,000 acres of valuable coastal marsh?

The total basic justifications for this project seems to be highly questionable. Both need and economic base were not demonstrated as mentioned above. They should be so demonstrated if this is the basis for this project. This, together with the fact that the last and only public hearing was held over seven years ago, leads one to question this project. The goals and objectives of any development project

Colonel Richard L. Hunt
March 29, 1972
page 2

can and should change as the project progresses. How does the Corps of Engineers know that this project is still wanted or needed by the people? In projects undertaken by the government, there should be a constant exchange of ideas between the development agency and the people. It would seem necessary to get updated information on public interest before making any further progress on this project.

The selection of alternatives is most unfortunate. As stated, all alternatives must provide "the desired navigation benefits". This is in opposition to the National Environmental Policy Act of 1969, which requires the study of all alternatives regardless of objectives. This lack of compliance is most obvious in the no action alternative. "The alternative of no action was not adopted because the benefits accruing to the approved project would be foreclosed." This is most disturbing and indicates an unwillingness by the Corps to comply with the National Environmental Policy Act. The few alternatives given are inadequately discussed and allow no method of comparison. The "approved project" is the only alternative which has any benefit-cost data given. What about locating the construction of oil rig equipment in another area where environmental impact would not be as severe? What about "delayed time alternative" allowing a thorough investigation to see that this project fits in with overall plans of both the Louisiana coastal area and the Atchafalaya Basin?

The statement gives insufficient information as to this project's effect on Bayou Penchant, which is in the Louisiana Scenic River System. Any operation that changes the Bayou is prohibited by State Law.

The area in which this project is located is most important to the people of Louisiana. It is one of the few areas of the State that is in the process of land building. It lies at the base of the Atchafalaya Basin, which is being studied for both flood control and recreation, and along the coast, which is being studied for proper management. Projects that are considered on a "one at a time basis" can be highly damaging to the overall environment. The impact statement should show the overall picture. What is the total effect of all the projects along the coast and in the Basin? It is necessary to place this project in the context of both proper coastal zone management and the goals that will be established by the Atchafalaya Cooperative Environmental Study.

Until a more comprehensive study and approach is undertaken by the Corps of Engineers, the Delta Chapter of the Sierra Club must be opposed to such activities as the Atchafalaya River and Bayous Chene, Boeuf, and Black Project.

Sincerely yours,

Charles F. Fryling, Jr.
Charles F. Fryling, Jr.
Conservation Chairman
Delta Chapter Sierra Club

Enc Dir

Audubon Society
346 Auduson St.
New Orleans, Louisiana 70118

Colonel Richard L. Hunt
District Engineer
U.S. Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

We have received and studied your draft statement for the Atchafalaya River and Bayous Chene, Boeuf, and Black, and we are submitting the following comments:

We are opposed to the plan for the following reasons:

1. The only justification for this project is the fact that the proposed channelization will better accomodate the new and larger styles of drilling rig enroute to the Gulf. This enlarged channel would no doubt enable these "super-rigs" to be built in the vicinity of Morgan City. However, it is a recurrent fallacy in the economic thinking of the Corps, that it conveniently ignores the fact that other cities, where the rigs are presently being built, would be deprived of that industry in favor of Morgan City. Morgan City's gain would be their loss. And New Orleans, which this Corps District is also supposed to serve, would be among the most prominent losers, a "cost" which almost certainly has not been included in the cost-benefit ratio. We do not doubt that this juggling of the regional economy will be convenient to the oil industry. However, we believe that the Corps of Engineers, funded by the U.S. taxpayers, should not function in the coastal marshes solely as the contractor and service agency for private industry, especially when the proposed construction is not even remotely essential to the survival or well being of that industry and the people dependent on it. Considering the real priorities for taxpayers' money in this country, it is unfortunate that this scheme should even be contemplated, since its sole purpose is to add to the convenience, not the real needs, of an industry, which will continue to flourish in the Gulf without this additional "benefit."

2. As you know, the Corps is now required to consider alternatives to its proposals even when those alternatives are not within the range of its own operations. The alternative to this project is a glaringly obvious one: A floating assembly dock could be located below the present channel--at industry expense--and the new super rigs could be transported to it in two or three segments from construction facilities in the Morgan City area. That is, if the private parties and corporations concerned deemed it practical to use Morgan City as a construction site. It is, of course, possible that the

Colonel Richard Hunt

March 10, 1972

Page 2

currently available means of construction and transport from cities like New Orleans might be economically preferable--but that is the industry's decision, and in no case is it incumbent upon the Corps to provide its own expensive and destructive alternative.

3. It is our understanding that numerous agencies and individuals in the state have combined their efforts in a task Force that is developing a comprehensive plan for the management of Louisiana's entire coastal region. It would not be appropriate for the Corps to undertake a new project of this magnitude, when it is so manifestly non-urgent, while this study is underway.

4. Similarly, we understand that the Corps itself, in an extremely commendable action, is now cooperating with various agencies and citizen groups in an inventory of the resources of the Atchafalaya Basin, and a consideration of alternatives to present flood control management. It would undermine the Corps' own praiseworthy intentions if, at the very beginning of this cooperative effort, it should undertake this unessential and environmentally harmful project.

5. Concerning specific environmental questions: The 7000 acres of proposed spoil bank are referred to in the report as being capable of revegetation and the overall impression offered by the report is that there could not be much lasting environmental damage. Yet, in passing, the report mentions that fully $\frac{1}{2}$ of these spoil banks will be subjected to periodic deposits from maintenance dredging. Thus, for the foreseeable future, the actual amount of marsh removed more or less permanently from its present use is not 350 acres (the amount needed for the channel itself), but nearly 4000 acres.

6. Furthermore, the spoil area not needed for maintenance would, as the report itself briefly mentions, be utilized to a great extent by industries which would otherwise build in drier, safer areas, more desirably concentrated in the vicinity of Morgan City (where they would benefit the local economy just as much as they would if located on the proposed spoil banks). If industry were to locate on these spoil banks in an area notorious for its vulnerability to hurricanes, it would in effect enlarge the area in need of future hurricane protection. This might ensure the Corps of future projects but it would not be the best sort of hurricane planning for this vulnerable region.

7. The impact statement does not consider pollution from this anticipated industrial sprawl.

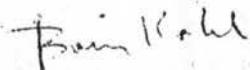
8. From the evidence of the report itself, the question of salinity effects in the marsh is rather speculative. Though it is difficult to assess the problem on the basis of the report, it seems that no attention is given to the extent that the proposed spoil banks might permanently cut off the flow of fresh water from the present channel to the adjoining marshes.

Colonel Richard Hunt
March 10, 1972
Page 3

For all of the reasons above, we strongly recommend that the Corps abandon this project, which is manifestly unessential, which is wasteful of taxpayer monies, and which, is destructive to the coastal environment.

We shall look forward to being advised of all future developments. If the Corps persists in this project we trust that further hearings will be held. On this last point, please advise us. Thank you.

Sincerely yours,



Barry Kohl
Conservation Director

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LOUISIANA STATE UNIVERSITY
AND AGRICULTURAL AND MECHANICAL COLLEGE

BATON ROUGE · LOUISIANA · 70803

School of Environmental Design

OFFICE OF THE DEAN

March 29, 1972

Colonel Richard L. Hunt
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, LA 70160

Dear Colonel Hunt:

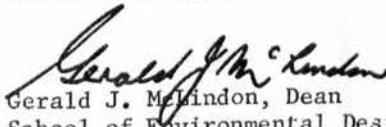
Having reviewed the draft environmental statement for the Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana I feel the suggested improvement should be reconsidered. The proposed development appears to be planned without relationship to the total coastal studies plan or the Atchafalaya study.

In the impact statement, there seems to be a presumption that industrialization will occur in the swamp areas surrounding this project. If this is an anticipated secondary impact of the proposed improvement, it could be most detrimental to the general environment and ecology of the area. To encourage industrial development in the sensitive swamp areas certainly appears to be contrary to the recommendations contained in the National Estuary Study, prepared by U. S. Department of the Interior, Fish and Wildlife Service.

As with all of the proposals in the coastal strip, I strongly urge that they be held in abeyance until a plan has been prepared for coastal zone land use. Otherwise the fact that public funds have been expended could be advanced in the future as a justification for other developments which by their nature should not occur in these areas.

As in past communications I question the methods of disposing of dredge materials. It is my opinion that where dredging is necessary, the spoil can be disposed on selected sites, so that it does not occupy as much surface area as is indicated on this proposal. The spoil could provide topographic relief and perhaps be utilized for recreation purposes and possible overlook sites.

Yours sincerely,


Gerald J. McKindon, Dean
School of Environmental Design

ks

Clifford M. Danby
4843 Gabriel Drive
New Orleans, Louisiana 70127

April 3, 1972

Colonel Richard L. Hunt
District Engineer
U. S. Army Engineer District
P. O. Box 60267
New Orleans, Louisiana 70160

Re: Draft Environmental Statement
on Atchafalaya River and Bayous
Chene, Boeuf, and Black, Louisiana
Project

Sir:

Thank you for the copy of the referenced draft environmental statement transmitted with your letter of February 29, 1972. I wish to offer my views and evaluation of the proposed project.

In my opinion, justification for the project does not appear sufficiently supported by the information contained in the draft environmental statement.

The need for the project and its economic justification are not clear. The environmental statement does not provide sufficient information on costs and benefits to support the cited ratio of 1.2 to 1. Also, it is not entirely clear why additional construction and servicing facilities are needed for large, offshore drilling rigs. What is the demand for this? What economic impact will this have on the Mobile, Alabama; New Orleans, Louisiana; and Orange, Texas locations? Will this project add to unemployment at those facilities? Also, what is the economic impact to commercial fisheries if salt water intrusion seriously affects fishery resources?

The number of alternatives considered appears to be somewhat limited. Was consideration given to following the Gulf Intracoastal Waterway westward to the lower Atchafalaya River and thence along the river to the Gulf? Another alternative west of the proposed project but generally parallel to it could have been additionally explored.

From my viewpoint the most important aspect of this project is its environmental impact. I think that this very sensitive area could have been more fully explored, particularly as to the effect of salinity on the freshwater marsh. What will be the extent of salt water encroachment, especially in Bayou Penchant (this bayou is part of the Louisiana Natural and Scenic Rivers System)? How much will salinity increase in Bayou Penchant? At what level will salinity become dangerous to freshwater fish, wildlife, and vegetation? Will a dangerous level be reached as a result of this project? It certainly seems so based on the statements in your study. Has consideration been given to installing weirs to protect freshwater areas from salt water intrusion - especially Bayou Penchant - so as to preserve freshwater life systems?

The environmental statement observes that salinity caused changes will be "short term" and will "soon" be neutralized. The indicated time span is 20 years for these temporary changes at which time the build up of the Atchafalaya River delta is expected to prevent salt water intrusion. It is not clear to me how this would be so as the channel you propose will still be there, and salt water flow into it will not be restricted.

A 20-year change in the marsh environment could cause serious and permanent damage to fish and wildlife life systems. Since fishery resources are of high value and of major importance to the economy of this area, has the economic impact of this been considered? What measures are planned to protect against loss of income in this area?

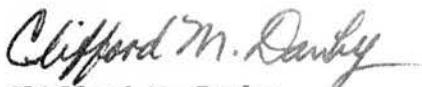
Concerning spoil areas, do project plans include replanting of spoil areas (especially maintenance spoil areas) so that vegetative regrowth will occur as soon as possible? Why couldn't spoil be placed only on the west side of the channel, thereby preserving natural state of the marsh east of the project, particularly around Bayou Pechant? This would also lessen the attractiveness of the area for industrial development. Also, will placing spoil in the Atchafalaya Bay and Gulf of Mexico increase sedimentation build up and, thus, further lessen the value of fishery resources?

Relative to project contractors, what recourse is planned should they pollute the area? For example, are performance bonds for this specific objective required?

Thank you for allowing me to comment on the draft environmental statement. As you can see, I think that a number of important questions remain unanswered by the statement. Consequently, I do not think the proposed project is justified because of potential environmental and economic losses to the area.

I would appreciate your serious reconsideration of the need for this project.

Sincerely,



Clifford M. Danby

cc: Environmental Protection Agency, Washington, D. C.
Council on Environmental Quality, Washington, D. C.
Louisiana Wildlife and Fisheries Commission
Louisiana Department of Public Works
Orleans Audubon Society

June 19, 1972

To: District Engineer
U. S. Army Engineer District, New Orleans
Box 60267
New Orleans, Louisiana 70160

cc: The Honorable Hale Boggs
600 South Street
New Orleans, Louisiana

Editor, States-Item
3800 Howard Avenue
New Orleans, Louisiana

Editor, Times-Picayune
3800 Howard Avenue
New Orleans, Louisiana

I have received and reviewed the Army Corps of Engineers' Draft Environmental Statement on the Atchafalaya Basin project.

The attached is my response to that statement.

A CITIZEN ANSWERS THE ARMY CORPS OF ENGINEERS
DRAFT ENVIRONMENTAL STATEMENT
ON THE ATCHAFALAYA BASIN PROJECT

If I decide to manufacture trucks 40 feet wide by 200 feet long because they will be able to carry a much larger load than the standard trucks of today, thereby greatly increasing my profit, using your logic I could demand that the roads I wish to drive my trucks on be widened to 150 feet to accomodate them, disregarding the impact the project might have upon the people, property and wildlife along the sides of the road. I could also, "to expedite the project," get my own "local interests" to do your impact study for you - where innumerable "temporary," "maybe," "if," and "minimal" type phrases would be used.

Your draft impact statement on the Atchafalaya Basin project reads to me like the Candy Man must be employed as chief writer by the Army Corps of Engineers. "Who can take tomorrow, dip it in a dream, separate the sorrow and collect up all the cream? The Candy Man!" Your Candy Man sure can make ecocide sound like heaven.

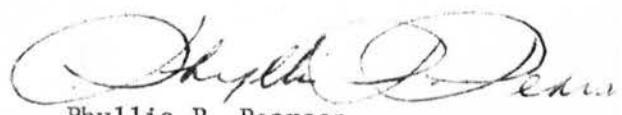
You speak of all the magnificent new industries which will inevitably spring up along your project route, stating that pollution control will be their responsibility. I have yet to see any industry in Louisiana that has properly policed itself in the area of pollution.

And the inference of your offhand remarks that the Cajuns who inhabit the project area are being assimilated "into the mainstream of American culture" leaves cold chills running down my spine. You lead one to believe that these beautiful French-speaking people who trap and shrimp for a living are of little consequence, because their progeny will be absorbed into that limitless glop of "average America" anyway.

The Atchafalaya Basin is the Everglades of Louisiana - rich in virgin swampland and inhabited by a wealth of wildlife. Are we to deny our children's children the enjoyment of such a wonderful legacy? And don't try to fool us into thinking that the ill-effects of your project would be "minimal."

You write that the environmental ill-effects caused by your project would be short-termed and that within 2 - 4 years things would return to "normal." Where are all the swamp critters going to come from to repopulate the area? You will have managed to kill off many of them, and possibly mutated others by the temperature, salinity and turbidity changes to the water, and the destruction of vegetation. Will you advertise in the newspaper Personals column that all is back to "almost normal," please come home?

As I see it, your "permanent commitment" to this project can be equated with "permanent disaster."



Phyllis P. Pearson
Post Office Box 29053
New Orleans, Louisiana 70129

July 11, 1972

To: U. S. Army Engineer District, New Orleans
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

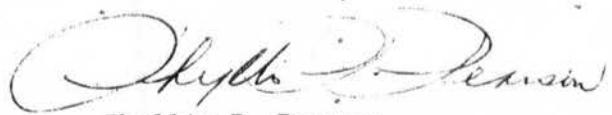
cc: Honorable Hale Boggs
House of Representatives
600 South Street
New Orleans, Louisiana

*Editor, Not Man Apart
Friends of the Earth
529 Commercial Street
San Francisco, California 94111

Subject: Atchafalaya Basin Project

On June 19, 1972 I submitted my review of your Draft Environmental Statement on the subject project. A few days later I received a copy of your Announcement of Public Meeting on the subject project.

I reviewed this public announcement leaflet, and found to my dismay that there were several drastic discrepancies between it and the draft statement. The attached write-up is my response to those discrepancies, and their impact upon the total picture of the Atchafalaya Basin project.



Phyllis P. Pearson
Post Office Box 29053
New Orleans, Louisiana 70129

*Copy of previous letter enclosed.

REVIEW OF DISCREPANCIES BETWEEN ARMY CORPS OF ENGINEERS DOCUMENTS

ATCHAFALAYA BASIN PROJECT

The July 1971 cost estimate of the Atchafalaya Basin project (from data supplied in the Army Corps of Engineers Draft Environmental Statement) was \$14,840,000. The cost estimate of this project in June 1972 (from data supplied in the Army Corps of Engineers Public Hearing Announcement on the project) was \$16,690,000. How in the world did the cost of this anticipated project to the taxpayer manage to increase by \$1,850,000 in the course of one year?

From the Louisiana Conservationist magazine, benefits derived from the project area were \$3,737,564 in 1962, not including recreational endeavors, cattle grazing, boat building, net knitting, etc. This income to the local trappers and fishermen was broken down as follows:

\$ 40,430	turtle meat
69,196	baby turtles
2,627,938	fish and food
<u>1,000,000</u>	fur
<u>\$3,737,564</u>	

Benefits to the oil industry, if this project is completed, are estimated at \$2,115,000 annually. Although the benefit of this area to sportsmen and commercial hunters and trappers was \$1,722,564 more 10 years ago than the present estimated savings to the oil industry, the area will be destroyed - with the benefits to the oil industry sited as the prime reason!

The Draft Environmental Statement which was completed in January 1972 said in a rather ho-hum way, "These rights-of-way support fair populations of wildlife which provides minor recreation and income to hunters and trappers, respectively." This draft minimized any loss of land and animals. It also stated, "The National Register of Historic Places 1969 does not list any areas within the project area."

The public announcement leaflet does, however, come out with very firm statements. It says, "Several archeological sites are known to exist in the vicinity of the project."

This public announcement leaflet also makes the following impact statements: "Spoil areas in the marshes will never support the original plant and wildlife communities now present in the marshes."

"The bottom dwelling organisms and cover now present in streams along the alignment will be completely removed by dredging. The productivity of the streams for sport and commercial fish will be severely reduced. The nursery areas in the marshes (4,700 acres) of importance to crustaceans, molluscs, fish, and therefore higher forms of life including man will be permanently changed due to spoil placement."

"In open water areas, spoil placement or current-carried sediments may have an effect on the oyster-producing areas..."

The project life is not given in the Draft Environmental Statement, but is noted in the public announcement leaflet as 50 years. Dredging will have to occur every two to four years in bayou areas and every year on the gulf reach. Cost of this maintenance dredging is not given.

Between 1955 and 1962, over 360 new homes and other buildings were built within the floodway. The Draft Environmental Statement does not give any indication of how many homes are located in the area now, but it is apparent that all residents of the area will have to vacate their homes and their life-styles.

I charge that the Army Corps of Engineers have tried to dupe the public in an effort to get this "authorized project" going on behalf of the oil industry. How can we sit idly by and let people's homes and livelihood be destroyed? How can we let our precious heritage of virgin swamplands be destroyed? This project would cost the Louisiana taxpayer much more than the \$16,690,000 estimated by the Army Corps of Engineers, all for the sake of saving the oil industry a few dollars. It must be stopped. A many-page Environmental Statement minimizing the destructiveness of the project, followed by a few-page public announcement leaflet which spells out in the most horrible detail of that destruction, is pure deceit to those people whose fears were soothed by the original statement and who may have failed to peruse the leaflet thoroughly. The authorization for this project need not be considered a fait accompli. There is still time to preserve the pristine beauty of our Atchafalaya, if enough people can be told the truth of the project.



Phyllis P. Pearson
Post Office Box 29053
New Orleans, Louisiana 70129

March 29, 1972
P. O. Box 52325
Lafayette, Louisiana 70501

Colonel Richard L. Hunt
District Engineer
U. S. Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Colonel Hunt:

This is in reference to your draft environmental statement for the authorized project "Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana."

First, I think I need to view this project from the point of view of the part of the Atchafalaya Basin in which the Greater Atchafalaya Basin Council is primarily interested, which is from U. S. Highway 190 south to Morgan City. It appears that the channel to be dug is east of the Atchafalaya Levee south of Morgan City to Avoca Island. The river, itself, will not require any dredging from Avoca Island to the mouth. In all honesty, therefore, I can't really see how this would have a great deal of effect on the Atchafalaya Basin north of Morgan City. Therefore, I question whether the Greater Atchafalaya Basin Council as an organization should have any zeal in the matter one way or the other.

Purely from the standpoint of ecology, having eliminated from consideration any possible selfish interests of the Greater Atchafalaya Basin Council, the limited inquiries I have been able to make indicate that the most valuable part of the area for sport and commercial fishing is that area around Avoca Island. This, I understand, is all private property and is posted for both hunting and fishing. I further understand that the people who own the island recognize that there will be some detrimental effects but they feel that the additional high ground they will receive will more than offset the damages. My only real concern is whether or not the effluent from the hydraulic dredging operation will enter Bayou Penchant and travel a sufficient distance to damage Lake Penchant and other clear lakes in its vicinity. I notice on page sixteen that spill boxes from the diked spoil-disposal areas will be located as far from Bayou Penchant as practical in order to minimize this problem. Although I am not personally familiar with a great deal of the subject area, I have been in Lake Penchant and have heard the character of Lake Penchant discussed many times. From my one visit and reports I have had, I do not feel that the statement at the top of page five of the report is completely accurate. Lake Penchant and other lakes are referred to as being very shallow with average depths of four feet or less and that consequently they are generally turbid. Lake Penchant, at least, I believe to be a clear lake. I do not know about the other lakes mentioned in the same sentence. On the positive side concerning this project, it certainly seems that a channel of the dimensions mentioned will be a great asset to the economy of Morgan City, Louisiana, and the surrounding area. It appears that approximately seven thousand acres of marsh will be lost but this also appears to be a small percentage of the area through which the channel would pass. Unless it can be clearly demonstrated that a much larger area than this would be damaged beyond repair, I really can not

